SAGINAW COUNTY BUILDING AUTHORITY

PROJECT MANUAL AND TECHNICAL SPECIFICATIONS

For

ENVIRONMENTAL ABATEMENT and DEMOLITION

At

Former Plaza Hotel
400 Johnson Street
Saginaw, Michigan

Date: June 7, 2012

PREPARED BY:

AKTPEERLESS
environmental & energy services
214 Janes Avenue
Saginaw, Michigan 48607
989.754.9896

FOR:

SAGINAW COUNTY BUILDING AUTHORITY
111 South Michigan
Saginaw, Michigan 48602

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Saginaw County Building Authority
Environmental Abatement and Demolition
Former Plaza Hotel
400 Johnson Street, Saginaw, Michigan

Sealed bids will be received by the Saginaw County Building Authority (AUTHORITY) at the Saginaw County Controller's Office, Attn: Ms. Kelly Suppes, Purchasing Manager, 111 South Michigan Avenue, Saginaw, Michigan 48602 until 3:00 p.m. on June 18, 2012, at which time said bids will be opened and publicly read aloud for the Environmental Abatement and Demolition of the Former Plaza Hotel, located at 400 Johnson Street, Saginaw, Michigan.

The AUTHORITY reserves the right to waive any informality in any bid, to reject any or all bids, negotiate any part of the bid, or accept any bid that is considered most favorable to the AUTHORITY.

A mandatory pre-bid walkthrough will be held Wednesday June 13, 2012, at the property address provided above. Representatives of the AUTHORITY and AKT Peerless Environmental & Energy Services (ENGINEER) shall be present to discuss the Project. A Plan Holders list will be prepared based on attendees of the meeting.

Electronic copies of plans, proposal forms and specifications may be obtained from the Saginaw County Purchasing Department website: http://www.saginawcounty.com/Departments/Purchasing.aspx or by contacting AKT Peerless, Attn: Ryan Londrigan, located at 214 Janes Avenue, Saginaw, Michigan 48602, Phone: (989) 754-9896. Paper copies will be available for purchase from AKT Peerless Environmental & Energy Services.

All addendums will also be posted to the above stated website and transmitted to all plan holders. The contractor is responsible for ensuring all addendums have been received and acknowledged prior to the submittal of the bid.

Time is of the essence. The Work will be substantially completed on or before 45 days from the Notice to Proceed. The Work is expected to be substantially complete by August 4, 2012.

PS-1 – PROPOSED SCHEDULE

PROJECT:

Environmental Abatement and Demolition - Former Plaza Hotel, 400 Johnson Street, Saginaw, Michigan

PROPOSED SCHEDULE:

Bid Release / Advertisement for Bid:	June 7, 2012	
Mandatory Pre-Bid Walkthrough:	June 13, 2012	9:00 am
Final Contractor Questions:	June 13, 2012	3:00 pm
Bids Due / Opening:	June 18, 2012	3:00 pm
Award Date:	June 20. 2012	
Contractor Submit 10-Day Notification	June 20, 2012	
Substantially Complete:	August 4, 2012	

CONTACTS:

Saginaw County Controller's Office
111 South Michigan Avenue, Saginaw, Michigan 48602
Attn: Ms. Kelly Suppes, Purchasing Manager
Email: Ksuppes@saginawcounty.com
Ph: 989-790-5505

AKT Peerless Environmental and Energy Services
214 Janes Avenue, Saginaw, Michigan 48607
Attn: Ryan T. Londrigan, CHMM
Email: Ryan@aktpeerless.com
Ph: 989-754-9896
Cell: 989-284-7238
Fax: 989-754-3804

SECTION 00100 - INVITATION TO BID

The Saginaw County Building Authority ("AUTHORITY") will receive sealed bids at the Saginaw County Controller's Office, Attn: Ms. Kelly Suppes, Purchasing Manager, 111 South Michigan Avenue, Saginaw, Michigan 48602 **until 3:00 p.m. on Monday June 18, 2012,** at which time said bids will be opened and publicly read aloud for the following project:

> **Environmental Abatement and Demolition - Former Plaza Hotel, 400 Johnson Street, Saginaw, Michigan**

Bids submitted after the above listed date and time will not be accepted.

A mandatory pre-bid site walk is scheduled for Wednesday June 13, 2012 at 9:00 am. The site walk will be held at the property address provided above. Contractors bidding on the project are required to attend the site walk. Following the formal pre-bid meeting, the building will remain open and available for Contractors until approximately 3:00 pm. The exterior of the site is generally accessible for contractors to view at their convenience.

Changes to the Bidding Documents or Specifications will be issued as an Addendum. A list of Plan Holders will be prepared based on attendance at the mandatory site walk. The ENGINEER will transmit to all prospective Bidders of record such Addenda as the Professional considers necessary in response to questions arising at the conference. Oral statements may not be relied upon and will not be binding or legally effective.

The AUTHORITY intends to select one contractor based on price and qualifications to perform removal and disposal of environmentally hazardous materials, structure demolition and site restoration of designated structures in Saginaw County. A site-specific hazardous materials survey has been prepared and is provided with the Bidding Documents.

Contract Documents are on file and/or available for electronic download from the Saginaw County Purchasing Department:

Saginaw County Courthouse
111 South Michigan Avenue
Saginaw Michigan
Phone: 989-790-5210
http://www.saginawcounty.com/Departments/Purchasing.aspx

Plans are also expected to be on file at the following organizations:

McGraw-Hill Dodge, 401 Hall Street SW, Suite 128B, Grand Rapids, Michigan 49503
Construction Association of Michigan, 43636 Woodward Avenue, Bloomfield Hills, Michigan 48304
Construction News Service, 1793 R.W. Berends Drive SW, Wyoming, Michigan 49519

Upon request, starting Thursday June 7, 2012, one set of bid documents will be issued electronically in PDF format, via email, to prospective bidders by AKT Peerless Environmental & Energy Services (AKT Peerless) located at 214 Janes Avenue, Saginaw, Michigan 48602; Phone: 989-754-9896. Paper copies are available from AKT Peerless for a cost of $75 per set.

No proposal may be withdrawn for a period of ninety (90) days after submission. Bids offering less than ninety (90) days for acceptance by the AUTHORITY from the date set for opening may be considered non-responsive and will be rejected.

The AUTHORITY reserves the right to reject any or all bids and to waive irregularities or informalities in the bids and/or to negotiate separately the terms and conditions of all or any part of the bid, proposed scope of work, and/or contract, as may be deemed in AUTHORITY'S interest in its sole discretion. It is the AUTHORITY'S intent to award the project to the lowest responsive and responsible bidder in compliance with the Saginaw County Purchasing Policy. The Saginaw County Purchasing Policy is available here: http://www.saginawcounty.com/Docs/Commissioners/Compiled_County_Policies.pdf

Attention is called to the fact that not less than the prevailing salaries and wages noted in the Federal Wage Determination must be paid on this Project.

Time is of the essence. Contractor will be authorized to proceed with work at the discretion of the AUTHORITY. The Work will be substantially completed on or before 45 days from the Notice to Proceed and completed and ready for final payment in accordance the contract. Refer to PS-1 for the proposed project schedule.

Payment and Performance Bonds are required for this contract. Payment and Performance Bonds shall be full value of the contract plus any legal costs incurred to solicit and secure alternate contractors to complete the project as intended within the contract documents.

All inquiries relating to the contract documents should be directed to:

AKT Peerless Environmental & Energy Services
214 Janes Avenue, Saginaw, Michigan 48607
Attn: Mr. Ryan T. Londrigan, CHMM
Ryan@aktpeerless.com
Ph: 989-754-9896 x 114
Cell: 989-284-7238
Fax: 989-754-3804

Inquiries must be received by Wednesday **June 13, 2012 at 3:00 pm** to allow time for a response. Responses to inquiries will be provided to all bidders on the Plan Holders list via email or fax. No response will be provided for inquiries received after the above stated date and time.

SECTION 00110 – PROJECT CONTACTS

PROJECT:

Environmental Abatement and Demolition - Former Plaza Hotel, 400 Johnson Street, Saginaw, Michigan

CONTACTS:

ENGINEER:
AKT Peerless Environmental and Energy Services
Ryan T. Londrigan, CHMM
214 Janes Avenue, Saginaw, Michigan 48607
Email: Ryan@aktpeerless.com
Ph: 989-754-9896
Cell: 989-284-7238
Fax: 989-754-3804

AUTHORITY/OWNER
Saginaw County Building Authority
111 South Michigan Avenue, Saginaw, Michigan 48602

COUNTY PURCHASING
Saginaw County Controller's Office
Ms. Kelly Suppes, Purchasing Manager
111 South Michigan Avenue, Saginaw, Michigan 48602
Email: Ksuppes@saginawcounty.com
Ph: 989-790-5505

SITE DEVELOPMENT/PAVING ENGINEER
William A. Kibbe & Associates, Inc.
Mr. Terry Miner, PE
1475 South Washington Avenue, Saginaw, Michigan 48601
Email: tminer1475@kibbe.com
Ph: 989-752-5000

SAGINAW FIRE MARSHALL
Saginaw Fire Department
Chief Gregory Barton
801 Federal Avenue, Saginaw, Michigan 48607
Ph: 989-759-1393

WATER AND SEWER UTILITIES
City of Saginaw
1435 South Washington, Saginaw, Michigan 48601
Ph: 989-759-1670

GAS AND ELECTRIC

Consumers Energy
Mr. John Hoffmann
2400 Weiss Street, Saginaw, Michigan 48602
Email: jrhoffmann@cmsenergy.com
Ph: 989-791-5904

TELEPHONE

AT&T
Mr. John Carey
309 South Washington Avenue, Saginaw, Michigan 48607
Ph: 989-776-4047

CABLE

Charter Communications
2525 State Street, Saginaw, Michigan 48602
Ph: 888-833-4292

SAGINAW COUNTY SOIL EROSION

Saginaw County Public Works
111 South Michigan Avenue, Saginaw, Michigan 48602
Ph: 989-790-5258

SAGINAW WASTEWATER TREATMENT PLANT

Environmental Compliance Manager
Mr. Jason Casteel
2406 Veterans Memorial Parkway, Saginaw, Michigan 48601
Ph: 989-759-1523

DOW EVENT CENTER

Facilities Manager
Mr. Mike Haskin
303 Johnson Street, Saginaw, Michigan 48607
Email: mike@doweventcenter.com
Ph: 989-339-4496

END OF SECTION 00110

SECTION 00200 - INSTRUCTIONS TO BIDDERS

PART I - GENERAL

1.1 RECEIPT OF BIDS

A. Saginaw County Building Authority (herein called the "AUTHORITY") invites Bids/Tenders for removal and disposal of environmentally regulated materials, and demolition of the structure(s) at the Former Plaza Hotel Property.

B. Bid/Tenders will be received at the place and time indicated in Section 00100 - Invitation to Bid. Bids shall be included in a sealed envelope, marked with the project title and name and address of the Bidder. If the Bid is sent through the mail or other delivery system, the sealed envelope shall be enclosed in a separate envelope with the notation "Bid Enclosed" on the face thereof.

C. Entitle the bid as follows:

"Environmental Abatement and Demolition" – Former Plaza Hotel, 400 Johnson Street, Saginaw, Michigan

Mail or Deliver bid to: Saginaw County Controller's Office
Attn: Ms. Kelly Suppes, Purchasing Manager
111 South Michigan Avenue
Saginaw, Michigan 48602
Phone: 989-790-5505

D. Bids will be received at the time and place indicated in Section 00100 – Invitation to Bid and thereupon will be publicly opened and read aloud.

E. Submit one (1) original and two (2) duplicate copies of Bid.

1.2 METHODS OF BIDDING

A. The AUTHORITY invites Bid/Tenders on Environmental Abatement and Structural Demolition work from qualified contractors.

B. Refer to Section 00800 - "Summary of Work" and following sections for a detailed description of work.

C. See Bid/Tender form for specific requirements regarding bids.

D. Pricing shall comply with the following:

1. Prices include all applicable taxes;
2. Unless otherwise noted, prices shall include all fees, mobilization, labor, supervision, materials, equipment, fringe benefits, profit, insurance, overhead, handling, and incidental items;
3. Price is based on using qualified and licensed labor as required by regulation and the Project Manual;

4. Bidder has made a careful examination of the requested work, and determined the amount and character of the work and the equipment and materials necessary to complete the same in compliance with the Contract Documents, and has become acquainted with labor conditions and all other conditions which would affect the work and shall complete the work in and under Conditions it may encounter or create, without delay or extra cost to the AUTHORITY;
5. All identified quantities will be provided on a per unit basis as identified in the bidding documents and a hazardous materials survey report. CONTRACTORS ARE STRONGLY CAUTIONED TO VERIFY MATERIAL QUANTITIES BEFORE SUBMITTING A BID. Prior to submitting a bid the Contractor is required to visit the site and verify site conditions and quantities.
6. Payment for each line item shall be based on the methods described in Section 00500.
7. Bidder must provide Unit Prices as indicated on the Bid Form. The Unit Prices shall be applied to Work that is added or deleted from the Contract. The Unit Prices shall be complete and include all labor, materials, equipment, supervision, fringe benefits, profit, overhead, taxes, insurance, incidentals, and fees. These rates shall be valid for the duration of the contract.

1.3 AVAILABILITY OF DOCUMENTS

A. One electronic set of Bid Documents can be downloaded or, upon request, shall be emailed to each licensed Contractor in PDF format. One set of documents includes one (1) set of Specifications.

B. Contract Documents are on file and/or available for electronic download from the Saginaw County Purchasing Department:

Saginaw County Courthouse
111 South Michigan Avenue
Saginaw Michigan
Phone: 989-790-5210
http://www.saginawcounty.com/Departments/Purchasing.aspx

C. Upon request, starting Thursday June 7, 2012, one set of bid documents will be issued electronically in PDF format, via email, to prospective bidders by AKT Peerless Environmental & Energy Services (AKT Peerless) located at 214 Janes Avenue, Saginaw, Michigan 48602, Phone: 989-754-9896. Paper copies are available from AKT Peerless for a cost of $75 per set.

D. Plans are also expected to be on file at the following organizations:

McGraw-Hill Dodge, 401 Hall Street SW, Suite 128B, Grand Rapids, Michigan 49503
Construction Association of Michigan, 43636 Woodward Avenue, Bloomfield Hills, Michigan 48304
Construction News Service, 1793 R.W. Berends Drive SW, Wyoming, Michigan 49519

1.4 DEPOSIT

A. No deposit is required for the electronic set of bid documents.

1.5 ADDITIONAL COPIES

A. Paper copies are available from AKT Peerless for a cost of $75 per set.

1.6 PREPARATION OF BID/TENDER

A. Submit one original and two copies of bid on forms furnished herein.

B. Make Bid/Tender in name of principal and if co-partnership, give names of all parties. Give complete address. If Bid/Tenders are submitted by an agent, provide satisfactory evidence of agency AUTHORITY.

C. Bidder must provide available start date and estimated schedule for completion. Time is of the essence as described in Bidding Documents.

D. Fill in all blank spaces for bid prices in both words and figures.

E. Bid/Tenders must be received prior to bid date and time as specified in the Invitation to Bid. No late bids will be accepted.

F. Complete all required sections of Bid/Tender including unit rates and supplemental questions.

1.7 WITHDRAWAL OR REVISION OF BID/TENDERS

A. Bid/Tenders may be withdrawn or revised prior to scheduled bid due date and time, under the following terms:

1. Bidders may, without prejudice to himself, withdraw Bid/Tender after it has been deposited, provided request for such withdrawal is received in writing, facsimile or by email before time set for opening. Telephonic communications are not acceptable. After due date and time, no Bid/Tender may be withdrawn for period indicated.

1.8 IRREGULAR/NON RESPONSIVE/NON RESPONSIBLE BID TENDERS

A. Bid/Tenders are considered irregular/non responsive and may be rejected for the following reasons unless otherwise provided by law:

1. If form furnished is not used or is altered.
2. If there are unauthorized additions, conditional bids, or irregularities of any kind which may tend to make Bid/Tender incomplete, indefinite, or ambiguous as to its meaning.
3. Bids offering less than ninety (90) days for acceptance by the AUTHORITY from the bid due date will be considered non-responsive and will be rejected.
4. If bidder adds any provisions reserving right to accept or reject any award, or to enter into Contract pursuant to an award.
5. If unit or lump sum prices contained in bid schedule are obviously unbalanced either in excess of, or below, reasonable cost analysis values.
6. If bidder fails to complete Bid/Tender in any other particulars where information is requested so Bid/Tender cannot be properly evaluated.
7. If bidder fails to provide pricing for each unit rate listed in bid pack.
8. If in the opinion of the AUTHORITY, the bidder does not have the capability in all respects to perform fully the contract requirements, and the tenacity, perseverance, experience, integrity, reliability, capacity, facilities, and equipment which will assure good faith performance.

B. AUTHORITY reserves right to reject any or all Bid/Tenders and to waive irregularities or informalities as may be deemed in the AUTHORITY'S interest. The AUTHORITY reserves the right

to not award the project. The AUTHORITY intends to award the project to the lowest responsive and responsible bidder in compliance with the Saginaw County Purchasing Policy. The Saginaw County Purchasing Policy is available here:
http://www.saginawcounty.com/Docs/Commissioners/Compiled_County_Policies.pdf

1.9 QUALIFICATION OF BIDDER

A. Contractors must be properly licensed pursuant to local, State and Federal regulations.

B. Contractors/Bidders shall submit at least three (3) references of past projects within the past three (3) years similar in nature both historically and technically to this proposed project. This list shall include company name, person to contact, address and telephone number. Failure to include references may be ample cause for rejection of Proposal as non-responsive.

1.10 INTERPRETATIONS

A. If Bidder for proposed work is in doubt as to true meaning of any part of Contract Documents, submit written request for interpretation. Bidder submitting request is responsible for its prompt and actual delivery by mail, email or fax. Interpretations will be made electronically and provided to all bidders.

B. Written inquiries or requests for interpretation can be submitted to:

AKT Peerless Environmental & Energy Services
214 Janes Avenue, Saginaw, Michigan
Attn: Ryan T. Londrigan, CHMM
Email: Ryan@aktpeerless.com
Phone: 989-754-9896 x 114
Cell: 989-284-7238
Fax: 989-754-3804

Inquiries or requests for interpretation must be received by **3:00 pm Wednesday June 13, 2012** to allow time for preparation of a response. Responses to inquiries will be provided to all registered bidders via email or fax in the form of an addendum. No response will be provided for inquiries received after the above stated due date and time. All interpretations or supplemental instructions will be in form of written addenda and will be emailed or faxed to all registered Plan Holders no later than 24 hours prior to the due date set for opening of bids. Failure to receive such addendum does not relieve bidder from any obligation under his bid as submitted. All addenda are part of the Contract Documents.

1.11 METHOD OF AWARD

A. The successful bidder(s) shall enter in contract agreement with the AUTHORITY to complete this work. The successful bidder(s) will be chosen based on qualifications, price, and ability to meet the project schedule.

B. The AUTHORITY intends to award a lump sum and unit rate contract to the successful bidder(s). The AUTHORITY reserves the right to award separate contracts for items of work based on the bidder's qualifications and pricing. The bidder is to include all services, disciplines, management and administration for completion of the project.

C. If lowest responsive/responsible base bid submitted by a responsible qualified bidder does not exceed amount of funds available to finance the Contract, a Contract may be awarded on the responsive base bid.

D. If lowest responsive/responsible base bid exceeds the amount of funds available, AUTHORITY may reject all bids.

E. The AUTHORITY may enter into negotiation with any responsible bidder for any reason as determined to be in the Authorities' best interest in its sole discretion.

F. The AUTHORITY intends to award the project to the lowest responsive and responsible bidder in compliance with the Saginaw County Purchasing Policy. The Saginaw County Purchasing Policy is available here: http://www.saginawcounty.com/Docs/Commissioners/Compiled_County_Policies.pdf

1.12 EXAMINATION OF SITE

A. The date and time for examination of the site is indicated in the Invitation to Bid. No additional date and time for interior site examination is available.

B. Contractor will be held responsible to have compared the premises with the hazardous materials survey, drawings, specifications, or other provided items, and to have satisfied himself as to all conditions affecting the execution of the work.

C. No allowance or extra compensation concerning any matter or thing about which the Bidder/Contractor might have become fully informed will be allowed. Additional material quantities will not be compensated without the AUTHORITY'S prior approval. By submitting bid Contractor acknowledges that estimated quantities are not guaranteed. CONTRACTORS ARE STRONGLY CAUTIONED TO VERIFY MATERIAL QUANTITIES BEFORE SUBMITTING A BID.

1.13 PRE-BID MEETING

A. Pre-bid meeting date and time is indicated in the Invitation to Bid.

1.14 BASE BID, ALTERNATES AND UNIT PRICES

A. General: Bid must include unit prices as requested.

1.15 TIME OF THE ESSENCE

A. The AUTHORITY is expected to issue a Notice of Award to CONTRACTOR within 90 days following bid submission date. Contractors will be authorized to proceed with work at the discretion of the AUTHORITY. Substantial completion of the authorized work will be expected within 45 days of notice to proceed. As liquidated damages for delay, CONTRACTOR shall pay AUTHORITY $500.00 for each day that expires after the time specified until the Work is substantially complete.

END OF SECTION 00200

SECTION 00210 - AUTHORITY REQUIREMENTS

PART 1- GENERAL

1.1 DESCRIPTION

A. The following special provisions are requirements for contracts issued by AUTHORITY and Saginaw County. These requirements shall supersede requirements listed elsewhere in this specification. The contractor shall familiarize himself with all the requirements set forth by the special provisions and submit all required documentation and forms with the bid.

B. Special provisions are included as follows:

1. Before submitting a proposal, each Bidder shall personally inspect the site of the proposed work to arrive at a clear understanding of the conditions under which the work is to be performed.

2. Submit one (1) original and two (2) paper copies of this proposal in a sealed envelope bearing the title listed on the title sheet of the bidding documents in the lower left corner, addresses and delivered to the office of the:

   Saginaw County Controller
   Attention: Kelly M. Suppes, Purchasing/Risk Manager
   111 South Michigan Ave.
   Saginaw, Michigan 48602
   Ph: 989-790-5505

3. Proposals or addenda pertaining thereto received after the announced time and date of submittal, whether by mail or otherwise, will be rejected. It is the sole responsibility of the bidder for ensuring that their proposals are time stamped by Purchasing Department personnel before the Bidding close date and time. Proposals will be opened publically and will be taken under advisement. The County will select the successful Bidder, and may request additional information from any bidder at any time during the procurement process.

4. Nothing herein is intended to exclude any responsible firm or in any way restrain or restrict competition. On the contrary, all responsible firms are encouraged to submit Proposals.

5. Authority to Bind Firm in Contract: Bidders shall provide full firm name and address. Failure to manually sign proposal will disqualify it. Firm name and authorized signature shall appear in the space provide on enclosed Bidding Documents.

6. Minority Bidders: The County encourages all businesses, including minority and women-owned businesses to respond to all Requests for Proposals.

7. Additional Information Requested: Please indicate if your firm has been cited and/or fined within the last five (5) years by any Federal, State, or Local regulatory agency. If so, please provide the following information: Date of Citation, Identity of Agency issuing Citation, Description of Violation, Final Rulings of Agency.

8. Nondiscrimination Clause: The Bidder who is selected as the Contractor, as required by law, and/or the Equal Opportunity Employment and Non-Discrimination Policy of Saginaw County, shall not discriminate against an employee or applicant for employment with respect to hire, tenure, terms, conditions or privilege of employment, or a matter directly or indirectly related to employment because of race, color, religion, sex, sexual orientation, gender identity, national origin, disability, height, weight, marital status, age or political affiliation (except where age, sex or lack of disability constitutes a bona fide occupational qualification).

   The vendor shall adhere to all applicable Federal, State and local laws, ordinances, rules and regulations prohibiting discrimination, including, but not limited to, the following:

   - The Elliott-Larsen Civil Rights Act, 1976 PA 453, as amended.
   - The Persons with Disabilities Civil Rights Act, 1976 PA 220, as amended.
   - Section 504 of the Federal Rehabilitation Act of 1973, P.L. 93-112, 87 Stat. 394, as amended, and regulations promulgated there under.
   - The Americans with Disabilities Act of 1990, P.L. 101-336, 104 Stat 328 (42 USCA §12101 et seq) as amended, and regulations promulgated there under.
   - Davis Bacon Act, Public Law 107-217-AUG. 21, 2002 [as amended] providing for Prevailing Wages and Benefits by the Department of Labor, State of Michigan, for the trades employed on the project.

   Breach of this Section shall be regarded as a material breach of the agreement.

9. Indemnification and Hold Harmless: The Bidder who is selected as the Contractor shall, at its own expense, protect, defend, indemnify, save and hold harmless the Saginaw County Building Authority, ENGINEER (AKT Peerless Environmental & Energy Services), County of Saginaw and its elected and appointed officers, employees, servants and agents from all claims, damages lawsuits, costs and expenses including, but not limited to, all costs from administrative proceedings, court costs and attorney fees that the Saginaw County Building Authority, ENGINEER, County of Saginaw and its elected and appointed officers, employees, servants and agents may incur as a result of the acts, omissions or negligence of the Contractor or its employees, servants, agents or subcontractors that may arise out of the agreement.

   The Contractor's indemnification responsibility under this section include the sum of damages, costs and expenses which are in excess of the sum of damages, costs and expenses which are paid out in behalf of or reimbursed to the County, its officers, employees, servants and agents by the insurance coverage obtained and/or maintained by the Contractor.

10. Insurance: The Contractor shall purchase and maintain insurance not less than the limits set forth below. All coverage shall be within insurance companies licensed and admitted to do business in the State of Michigan.

The contractor shall obtain, at its sole cost and expense, and shall require subcontractor of any tier, to obtain at their sole cost and expense, and keep in force in accordance with the terms of this agreement, insurance for protection from claims under workers' compensation acts; claims for damages because of bodily injury, including personal injury, sickness disease or death of any of the contractors employees or any other person; claims for damages because of injury to or destruction of property including loss of use resulting therefrom; claims for damages because of bodily injury or death of any persons or property damage arising out of ownership, maintenance or use of any motor vehicle; and claims arising out of the performance of the contract and caused by the contractor of subcontractor's negligence. Compliance by the contractor with the insurance requirements set forth herein shall not relieve the contractor from liability for amounts not covered by insurance. The Contractor agrees that the insurance requirements specified in the contract do no reduce the liability Contractor has assumed in the indemnification/hold harmless section of the contract.

Prior to commencement of the work, the contractor shall deliver to the County of Saginaw and Saginaw County Building Authority insurance certificates evidencing that the required insurance is in force with insurance companies with a Best rating of a least an A- VII or otherwise satisfactory to the County of Saginaw and the Saginaw County Building Authority. The contractor shall deliver upon request, copies of the actual insurance policies. All insurance coverage required hereunder shall provide that there shall be endorsed to provide notice of material change in, or cancellation of, the policy or policies evidenced except upon 30 day prior written notice to Ms. Kelly Suppes, Purchasing/Risk Manager, Email ksuppes@saginawcounty.com, and no later than 30 days prior to the renewal date. The Contractor shall furnish the County with updated or replacement certificates of insurance that clearly evidence continuation of all coverages in the same manner, limits and protection, as required by this agreement. The County of Saginaw and the Saginaw County Building Authority shall be included as an additional insured's under all coverage's (except Statutory Workers Compensation) as require by the agreement and such additional insured shall include coverage for completed operations and shall be specifically identified on the certificates of insurance.

Workers' Compensation Insurance Coverage
Contractor and any subcontractors must maintain workers' compensation insurance with statutory requirements in the Stat of Michigan. Employers' liability is also required with minimum limits of $500,000 for any one person. Waiver of subrogation is to be included.

Commercial General Liability Insurance (written on an occurrence form)
Minimum limits = $5,000,000 (may evidence via Umbrella policy)
Coverage is to include: Premises and Operations, Personal Injury/Advertising Liability, Products/Completed Operations, and Liability assumed under an Insured Contract, Independent Contractors. Primary and non-contributory status including a waiver of subrogation is required.

Commercial Automobile Liability Insurance
Coverage is to include all owned, non-owned and hired Automobiles used in connection with the work, with combined single limit coverage for Bodily Injury and Property Damage of not less than $1,000,000 per accident. Primary and non-contributory status including a waiver of subrogation is required.

Contractor's Pollution Liability
Contractor shall maintain limits no less than $2,000,000 per loss/$2,000,000 aggregate. Coverage is for losses caused by pollution conditions that arise from the operations of the contractor described under the scope of services of this contract:

a) Bodily injury, sickness, disease, mental anguish or shock sustained by any person, including death.
b) Property damage including physical injury to or destruction of tangible property including the resulting loss of use thereof, clean up costs, and the loss of use of tangible property that has not been physically injured or destroyed.
c) Defense including costs, charges and expenses incurred in the investigation, adjustment or defense of claims for such compensatory damages.
d) Non-owned Disposal Site coverage for specified sites if contractor is disposing of waste.
e) Coverage **shall not include exclusion from asbestos, mold or microbial matter.** The definition of pollution conditions will include asbestos, mold or microbial matter.
f) Coverage shall include transportation of waste and materials.
g) Coverage shall include non-owned disposal sites.
h) Coverage shall include a provision for additional insured status with primary and non-contributory status and waiver of subrogation in favor of County.

Coverage shall apply to sudden and non-sudden pollution conditions including the discharge, dispersal, release or escape of smoke, vapors, soot, fumes, acids, alkalis, toxic chemicals, liquids' or gases, waste materials or other irritants, contaminants or pollutants into or upon land, the atmosphere or any watercourse or body of water, provided such conditions are not naturally present in the environment in the concentration or amounts discovered, unless such natural condition(s) are released or dispersed as a result of the performance of Covered Operations.

General Conditions Insurance
For all insurance required by this agreement, the contractor and subcontractors may provide the liability limit specified by means of a combination of Primary and Umbrella Liability insurance. The Umbrella Liability coverage must be as broad or broader than the primary insurance policies.

11. Right of Rejection: The Authority and County reserves the right to reject any or all proposal, to waive any informalities or irregularities in proposal, and/or to negotiate separately the terms and conditions of all or any part of the proposals as determined to be in the Authority's or County's best interests in it sole discretion.

12. Standard Forms: Preprinted contract forms the vendor proposes to include as part of the contract resulting from this RFP must be submitted as part of the proposal. Any standard contract provision not submitted as part of the proposal and subsequently presented for inclusion may be rejected. The AUTHORITY and County reserves the right to accept or reject in whole or in part any form contract submitted be a vendor and/or to require that amendments be made thereto, or that an agreement drafted by the AUTHORITY or County be utilized.

13. Advise of Omission or Misstatement: In the event it is evident to a vendor responding to

this RFP that the AUTHORITY or County has omitted or misstated a material requirement to the RFP and/or the services required by this RFP, the responding vendor shall advise ENGINEER and Ms. Kelly Suppes, Purchasing/Risk Manager, Email ksuppes@saginawcounty.com, (989) 790-5505 of such omission or misstatement.

14. Cost of Preparation: The AUTHORITY and County will not pay any costs incurred in the proposal preparation, printing or demonstration process. All costs shall be born by Bidders.

15. Notification of Withdraw or Proposal: Proposals may be withdrawn prior to the date and time specified for the proposal submission with a formal written notice by an authorized representative of the vendor. Proposals submitted will become the property of the AUTHORITY and County after the proposal submission deadline.

16. Rights to Pertinent Materials: All responses, inquires, and correspondence relating to this RFP and all reports, charts, displays, schedules, exhibits and other documentation produced by the vendors that are submitted as part of the proposal shall become the property of the AUTHORITY and County after the proposal submission deadline.

17. Taxes: Saginaw County does not pay Federal excise and State sales taxes. Our tax exemption number is **#38-6004887.**

18. Bonding: Payment and Performance Bonds are required for this contract. Payment and Performance Bonds shall be full value of the contract plus any legal costs incurred to solicit and secure alternate contractors to complete the project as intended within the contract documents.

19. Firm Pricing for County Acceptance: Proposal price must be firm for AUTHORITY and County acceptance for ninety (90) days from Proposal opening date.

20. References: All Bidders shall submit at least three (3) references of past projects within the past three (3) years similar in nature both historically and technically to this proposed project. This list shall include company name, person to contact, address and telephone number. Failure to include references may be ample cause for rejection of Proposal as non-responsive.

21. Basis for Award: Contract award will be made to the lowest responsive and responsible Bidder on a total cost basis. The County reserves the right to negotiate with the lowest responsive and responsible Bidders if all Proposals exceed budget or with any responsible Bidder, for any reason, at its sole discretion.

22. Contract Approval: The Saginaw County Board of Commissioners may approve the contract resulting from this solicitation. This process typically takes 1-2 weeks from the date the successful Contractor is identified. The County will prepare a formal Agreement between Owner and Contractor – Stipulated Sum contract specific to this solicitation for execution by the successful Contractor.

Further Information

Questions about the proposal process shall be directed to Ms. Kelly Suppes, Purchasing/Risk Manager at email ksuppes@saginawcounty.com, phone (989) 790-5505. Questions about the specifications or scope of work shall be directed to Mr. Ryan T. Londrigan, AKT Peerless Environmental & Energy Services at the following email ryan@aktpeerless.com, or phone (989) 754-9896.

SECTION 00400 - BID/TENDER FORM

SUBMITTED TO: Saginaw County Controller's Office
Saginaw County Courthouse
111 South Michigan Avenue
Saginaw, Michigan 48602
Attn: Ms. Kelly Suppes, Purchasing Manager

FOR: "**Environmental Abatement and Demolition - Former Plaza Hotel, 400 Johnson Street, Saginaw, Michigan"**

DATE: _____

NAME OF BIDDER: _____

ADDRESS: _____

TELEPHONE: _____

TO: Saginaw County Building Authority (hereinafter called "AUTHORITY")

Gentlemen:

The Bidder, in compliance with your invitation for bids for the project **"Environmental Abatement and Demolition – Former Plaza Hotel, 400 Johnson Street, Saginaw, Michigan"**, having examined the Contract Documents prepared by the AUTHORITY and other related documents and having examined the site of the proposed work, and with all conditions surrounding environmental abatement and disposal of asbestos and hazardous materials, structure deconstruction and demolition, site feature demolition, and site restoration, hereby propose to furnish all labor, materials, tools, equipment, machinery, equipment rental, transportation, superintendence, perform all work, provide all services, and to perform all work in accordance with Contract Documents at price stated below. Prices are to cover all expenses incurred in performing work required under Contract Documents, of which this Bid/Tender is a part.

PRICE WORKSHEET

Bidder will complete the Work in accordance with the Contract Documents for the following price(s):

Item No.	Description	Units	Estimated Quantity	Unit Price	Proposal Price
1.	Preparation of Work Plan and Health & Safety Plan, Site Service, Mobilization & Demobilization	LS	1	Lump Sum	$_____
2.	Environmental Abatement & Disposal of Asbestos and Hazardous Materials	LS	1	Lump Sum	$_____
3.	Structure and Site Feature Demolition	LS	1	Lump Sum	$_____
4.	Entrance Sign, Abatement and Demolition (may be omitted)	LS	1	Lump Sum	$_____
5.	North Jefferson Light Pole Demolition (may be omitted)	LS	1	Lump Sum	$_____
6.	Western Guard Rail and Post Demolition (may be omitted)	LS	1	Lump Sum	$_____
7.	Soil Excavation and Disposal at Landfill	Ton	800	$_____	$_____
8.	Restoration (MDOT Class II Sand)	Cubic Yard	700	$_____	$_____
	Total of All Proposal Prices				$_____

Total Bid Price: $_____

In Words: _____

Contractor Name:_____

ADDITIONAL INFORMATION

1. Can you meet project schedule as proposed in PS-1 Proposed Schedule?:

2. Please provide available start date and estimated schedule for completion or if answered "No" to Question 1, please provide a proposed alternative schedule:

3. Please provide a brief description for your proposed method of asbestos and hazardous material abatement.

4. Please provide a brief description for your proposed method of building demolition.

5. Please provide any additional information necessary, which may allow the Authority to perform an accurate review of your bid and methods.

ADDITIONAL UNIT RATES

Bidders must also provide a unit rate price for:

Asbestos Unit Rate Schedule			
Item No.	**Description**	**Unit**	**Unit Price**
1	Sprayed-on Fireproofing	Square Foot	
2	Hard Wall/Ceiling Plaster (all layers, metal or wood lathe)	Square Foot	
3	Soft/Decorative Plaster (all layers, including substrate if necessary)	Square Foot	
4	Popcorn or Sprayed-on Ceiling or Wall Texture (all layers, including substrate if necessary)	Square Foot	
5	Drywall/Mud Compound	Square Foot	
6	Thermal System Insulation (TSI) Straight Pipe < 6” diameter	Linear Foot	
7	Thermal System Insulation (TSI) Straight Pipe > 6” to 12” diameter	Linear Foot	
8	Thermal System Insulation (TSI) Straight Pipe > 12” diameter	Linear Foot	
9	TSI Mud Fitting < 6” diameter	Each	
10	TSI Mud Fitting > 6 – 12” diameter	Each	
11	TSI Mud Fitting > 12” diameter	Each	
12	Duct Insulation (cloth or paper)	Square Foot	
13	Duct Insulation (fiberglass with ACM seam mud)	Square Foot	
14	Undercoated Sink	Each	
15	Fire Door	Each	
16	Floor Tile Only (any size)	Square Foot	
17	Floor Tile and Mastic (any size, any mastic type)	Square Foot	
18	Linoleum/Resilient Sheeting	Square Foot	
19	Linoleum/Resilient Sheeting and Mastic (any type)	Square Foot	
20	Window with associated caulk and/or glazing (any size including frame)	Each	
21	Furnace, boiler, or tank insulation (mud and jacket)	Square Foot	

Asbestos Unit Rate Schedule			
Item No.	**Description**	**Unit**	**Unit Price**
22	Transite (Panels, Siding or Board)	Square Foot	
23	Fireproof Panels	Square Foot	
24	Asphalt Brick Siding (e.g., Insul-Brick, Brick-Kote, etc.)	Square Foot	
25	Electrical Panel	Each	
26	Glued-on ceiling tiles (any size) and glue pods	Square Foot	
27	Construction Adhesives/other glue pods	Square Foot	
28	Cove Base	Square Foot	
29	Vermiculite Insulation	Cubic Yard	
30	Miscellaneous Asbestos Debris (any type, total quantity)	Cubic Foot	
31	Cementitious Materials	Square Foot	
32	Roofing/Flashing/Tar (any type)	Square Foot	
33	Light Fixture Heat Shields	Each	
34	Foundation, wall or block caulk	Linear Foot	
35	Transite / asbestos utility piping (any size)	Linear Foot	

Hazardous Material Unit Rate Schedule			
Item No.	**Description**	**Unit**	**Unit Price**
35	PCB or other ballasts	Each	
36	Fluorescent light tubes, > 4’	Each	
37	Fluorescent light tubes, 4’ or less	Each	
38	Mercury thermostats or switches	Each	
39	Misc household chemical containers	Each	
40	CFC (refrigerator, freezer, any size)	Each	

Hazardous Material Unit Rate Schedule			
Item No.	**Description**	**Unit**	**Unit Price**
41	CFC A/C unit (window or whole house)	Each	
42	Oil filled equipment	Each	
43	Gas cylinders (any size and type including, but not limited to: propane, oxygen, acetylene, etc.)	Each	
44	High pressure light fixtures (sodium, mercury vapor, etc.)	Each	
45	Heating oil or other bulk oil	Gallon	
46	Miscellaneous Aerosol Containers	Each	
47	Car/vehicle battery	Each	
48	Bicycle tires	Each	
49	Automobile or truck tires	Each	
50	Television, microwave, computer monitor	Each	
51	Smoke detector	Each	
52	Paint cans (latex, oil, etc. any size)	Each	
53	Gas Cans (10-gallons or less)	Each	
54	Lawn mowers/snow blowers (or other small engine item)	Each	
55	Empty 55-gallon drums	Each	
56	55-gallon drum with non-hazardous liquid	Each	
57	Ethylene glycol (one gallon)	Each	
58	Fire extinguishers	Each	
59	Unknown waste material characterization (TCLP)	Per Waste Stream	
60	Unknown waste disposal	Per drum	

Mobilization Material Unit Rate Schedule			
Item No.	**Description**	**Unit**	**Unit Price**
61	Mobilization for additional environmental abatement	Per event	

If Bidder is aware of additional Unit Prices not described above, Bidder may provide a description and pricing of items in following table:

Additional Material Unit Rate Schedule			
Item No.	**Description**	**Unit**	**Unit Price**

GENERAL

Bidder, if awarded a Contract, hereby agrees to commence work under this contract on or before a date to be specified in written "Notice to Proceed" by AUTHORITY.

The bidder agrees that the AUTHORITY may accept or reject any or all of the bids.

Bidder understands that the AUTHORITY reserves right to accept or reject any or all Bid/Tenders and to waive any informalities or irregularities herein.

Upon notice of acceptance of this Bid/Tender, Bidder will execute Contract Agreement and deliver properly executed insurance certificates to AUTHORITY within one (1) working day.

ADDENDA ACKNOWLEDGEMENT

Bidder acknowledges receipt of following addenda:

_____

_____

_____

ADDRESS, LEGAL STATUS, AND SIGNATURE OF BIDDER

The undersigned does hereby designate the address, given below, as the legal address to which all notices, directions, or other communications may be served or mailed.

P.O. Box
(if applicable) _____
Street
_____
City _____ State _____ Zip Code _____

The undersigned does hereby declare that it has the legal status checked below.

_____ Individual

_____ Co-Partnership

_____ Corporation Incorporated under the laws and State

of _____
The names and address of all people indicated as partners in this Bid Proposal are as follows:

NAME	ADDRESS
_____	_____
_____	_____
_____	_____
_____	_____

This Bid Proposal is submitted in the name of:

_____
(Name of Contractor)

By _____

Title _____

Signed and sealed this _____ Day of _____ 20 _____

INSTRUCTIONS: Submit this form as instructed in SECTION 00100 – BID INVITATION and SECTION 00200 – INSTRUCTIONS TO BIDDERS.

SUBCONTRACTOR LIST

The following list should contain the names, contact information, and items of work assigned to each subcontractor. Subcontractors are subject to the same requirements as the general contractor, and shall provide documentation and certifications as required in the contract documents. Subcontractor payment will be handled by the Contractor. Separate agreements will not be made between the subcontractor and the Authority.

SUBCONTRACTOR LIST

Work Item	Subcontractor Contact Information

Note: Additional pages may be attached if necessary.

REFERENCES

Bidder shall submit at least three (3) references of past projects within the past three (3) years similar in nature both historically and technically to this proposed project. This list shall include company name, person to contact, address and telephone number. Failure to include references may be ample cause for rejection of Proposal as non-responsive. Use space provided below or additional sheets as necessary.

Indicate the length of time you have been in business as a company providing the type of service required for this contract.

_____ years _____ months

Reference No. 1

Name/Organization:
Contact:
Address:
Phone: Fax:
Email:
Budget: $
Type of Project/Short Narrative:

Reference No. 2

Name/Organization:
Contact:
Address:
Phone: Fax:
Email:
Budget: $
Type of Project/Short Narrative:

Reference No. 3

Name/Organization:
Contact:
Address:
Phone: Fax:
Email:
Budget: $
Type of Project/Short Narrative:

END OF SECTION 00400

SECTION 00500 – FORM OF AGREEMENT

STANDARD FORM OF AGREEMENT
BETWEEN AUTHORITY AND CONTRACTOR
ON THE BASIS OF A STIPULATED PRICE

THIS AGREEMENT is by and between Saginaw County Building Authority

(hereinafter called AUTHORITY) and _____
(hereinafter called CONTRACTOR).

AUTHORITY and CONTRACTOR, in consideration of the mutual covenants hereinafter set forth, agree as follows:

ARTICLE 1 – WORK

1.01 CONTRACTOR shall complete all Work as specified or indicated in the contract documents. The work is generally described as follows:

Removal and disposal of environmentally hazardous materials from the structure, structure demolition and site restoration. A site specific hazardous material survey will be prepared by others and will be provided to the CONTRACTOR as part of the bid documents.

ARTICLE 2 – THE PROJECT

2.01 The Project for which the Work under the Contract Documents may be the whole or only a part is generally described as follows:

"**Environmental Abatement and Demolition - Former Plaza Hotel, 400 Johnson Street, Saginaw, Michigan"**

ARTICLE 3 – ENGINEER

3.01 AUTHORITY, or AUTHORITY'S designated representative (ENGINEER), shall assume all duties and responsibilities, and have the rights and authority in the Contract Documents in connection with the completion of the Work in accordance with the Contract Documents.

ARTICLE 4 – CONTRACT TIMES

4.01 Time of the Essence

Please provide available start date and estimated schedule for completion:

_____

_____

A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

4.02 Dates for Substantial Completion and Final Payment

A. The Work will be substantially completed on or before 45 days from Notice to Proceed, and completed and ready for final payment in accordance with paragraph 14.07 of the General Conditions.

4.03 Liquidated Damages

A. CONTRACTOR and AUTHORITY recognize that time is of the essence for this Agreement and that AUTHORITY will suffer financial loss if the Work is not completed within the times specified in paragraph 4.02 above. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by AUTHORITY if the Work is not completed on time. Accordingly, instead of requiring any such proof, AUTHORITY and CONTRACTOR agree that as liquidated damages for delay (but not as a penalty), CONTRACTOR shall pay AUTHORITY $500.00 for each day that expires after the time specified in paragraph 4.02 for Substantial Completion until the Work is substantially complete. After Substantial Completion, if CONTRACTOR shall neglect, refuse, or fail to complete the remaining Work within the Contract Time or any proper extension thereof granted by AUTHORITY, CONTRACTOR shall pay AUTHORITY $500.00 for each day that expires after the time specified in paragraph 4.02 for completion and readiness for final payment until the Work is completed and ready for final payment.

ARTICLE 5 – CONTRACT PRICE

5.01 Contract Price

Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents an amount in current funds equal to the sum of the amounts stated in the Contractor Bid included herein.

TOTAL OF ALL ESTIMATED PRICES_____($_____)
(words) (numerals)

ARTICLE 6 – PAYMENT PROCEDURES

6.01 Submittal and Processing Payments

A. CONTRACTOR shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be processed by AUTHORITY or ENGINEER as provided in the General Conditions.

6.02 Progress Payments; Retainage.

A. Monthly progress payments will be made by the AUTHORITY. Upon final completion and acceptance of the WORK, in accordance with paragraph 14.07 of the General Conditions, completion of all work requirements including punch list items, and receipt of written waivers of lien, AUTHORITY shall make a single, one-time final payment including retainage.

B. The retainage shall be ten percent (10%) of the contract price.

6.03 Final Payment

C. Upon final completion and acceptance of the Work in accordance with paragraph 14.07 of the General Conditions, AUTHORITY shall pay the remainder of the Contract Price as recommended by ENGINEER as provided in said paragraph 14.07.

D. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance certificates of inspection, marked up and/or supporting documentation as provided in Contract Documents and General Conditions, (or as otherwise requested by Engineer) to allow Engineer to prepare Record Plans, and other documents, Contractor may make application for final payment following the procedure for progress payments.

E. The final Application for Payment shall be accompanied (except as previously delivered) by:

1. All documentation called for in the Contract Documents, General Conditions, and required by governing authorities;

2. Consent of the surety, if any, to final payment;

3. A list of all Claims against Owner that Contractor believes are unsettled;

4. Complete and legally effective releases or waivers in a form satisfactory to Owner of all claims, including but limited to, Lien rights arising out of or Liens filed in connection with the Work and proof of payment to all subcontractors and suppliers utilized on this project.

ARTICLE 7 – CONTRACTOR'S REPRESENTATIONS

7.01 In order to induce AUTHORITY to enter into this Agreement CONTRACTOR makes the following representations:

A. CONTRACTOR has examined and carefully studied the Contract Documents and other related data identified in the Bidding Documents.

B. CONTRACTOR is familiar with similar projects and had become familiar with and is satisfied as to the general, local, and area conditions that may affect cost, progress, and performance of the Work.

C. CONTRACTOR is familiar with and is satisfied as to all federal, state, and local Laws and Regulations that my affect cost, progress, and performance of the Work.

D. CONTRACTOR has obtained and carefully studied (or assumes responsibility for having done so) all additional or supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and underground facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by CONTRACTOR, including applying the specific means, methods, techniques, sequences, and procedures of construction, if any, expressly required by the Contract Documents to be employed by CONTRACTOR, and safety precautions and programs incident thereto.

E. CONTRACTOR does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract Documents.

F. CONTRACTOR has correlated the information known to CONTRACTOR, information and observations obtained from similar projects and reports and drawings identified in the Contract Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Contract Documents.

G. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

ARTICLE 8 – CONTRACT DOCUMENTS

8.01 Contents

A. The Contract Documents consist of the following:

1. This Agreement (pages 1 to 6, inclusive);
2. Contractor's Bid/Tender (pages 1 to 10, inclusive);
3. Project Manual and Technical Specifications
4. Certificate(s) of Insurance; and
5. Contractor Disclosure Statement
6. The following which may be delivered or issued on or after the Effective Date of the Agreement and are not attached hereto:

   a. Written Amendments;
   b. Work Change Directives; and
   c. Change Order(s).

B. The documents listed in paragraph 8.01.A are attached to this Agreement (except as expressly noted otherwise above).

C. There are not Contract Documents other than those listed above in this Article 8.

D. The Contract Documents may only be amended, modified, or supplemented as provided in paragraph 3.04 of the General Conditions.

ARTICLE 9 – MISCELLANEOUS

9.01 Terms

A. Terms used in this Agreement will have the meanings indicated in the General Conditions.

9.02 Assignment of Contract

A. No assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

9.03 Successors and Assigns

A. AUTHORITY and CONTRACTOR each binds itself, its partners, successors, assigns, and legal representatives to the other party hereto, its partners, successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

9.04 Severability

A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon AUTHORITY and CONTRACTOR, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

9.05 Correction Period

A. For a period of one year from the date of submittal of completion, promptly correct work, repair damage to protected features, or replace materials that are found to be defective.

9.06 Other Provisions

None

IN WITNESS WHEREOF, AUTHORITY and CONTRACTOR have signed this Agreement in duplicate. One counterpart each has been delivered to AUTHORITY and CONTRACTOR. All portions of the Contract Documents have been signed or identified by AUTHORITY and CONTRACTOR or on their behalf.

This Agreement will be effective on, _____ (which is the Effective date of the Agreement).

AUTHORITY:	CONTRACTOR:
Saginaw County Building Authority	_____
By: _____	By: _____
[CORPORATE SEAL]	[CORPORATE SEAL]
Date: _____	Date: _____
Attest: _____	Attest: _____
Address for giving notices	Address for giving notices
Saginaw County Building Authority	_____
111 South Michigan	_____
Saginaw, MI 48602	_____
Designated Representative:	Designated Representative:
Name: _____	Name: _____
Title: _____	Title: _____
Address: _____	Address: _____
_____	_____
_____	_____
Phone: _____	Phone: _____
Fax: _____	Fax: _____

SECTION 00510 – NOTICE OF AWARD

Date: _____

To:

_____
_____
_____

Attention:

_____

Project: "**Environmental Abatement and Demolition - Former Plaza Hotel, 400 Johnson Street, Saginaw, Michigan"**

Gentlemen:

You are hereby notified that the Saginaw County Building Authority (AUTHORITY) has directed the acceptance of your Bid for the above-referenced Project in the amount of ($_____).

This project shall include the Work, as delineated in your Bid submitted to the AUTHORITY.

Please comply with the following conditions within one (1) day of the date of this Notice of Award:

1. Deliver to the AUTHORITY the executed Form of Agreement (Section 0500), on the form included in the Contract Documents. Please do not date Form of Agreement, as these will be dated by the AUTHORITY when executed by him.

It is important to comply with these conditions and time limits, as failure to comply with these conditions within the time specified will entitle AUTHORITY to consider your bid abandoned and to annul this Notice of Award.

Copy to ENGINEER:

AKT Peerless Environmental & Energy Services,
214 Janes Avenue, Saginaw, Michigan 48607
Attn: Ryan T. Londrigan, CHMM
email: Ryan@aktpeerless.com

Saginaw County Building Authority (AUTHORITY)

By: _____
(Authorized Signature)

SECTION 00550 – NOTICE TO PROCEED

Date: _____

To:

_____
_____
_____

Attention:

_____

Project: "**Environmental Abatement and Demolition - Former Plaza Hotel, 400 Johnson Street, Saginaw, Michigan"**

Please note that the Contract Time under the above Contract will commence to run on the date of this Notice to Proceed. The Work will be substantially completed on or before 45 days from the date of this Notice to Proceed, and completed and ready for final payment in accordance with the Contract Documents and paragraph 14.07 of the General Conditions.

Please submit to the AUTHORITY and ENGINEER the expected schedule for completion of the project. The AUTHORITY and ENGINEER must be notified one (1) full working day prior to delivery of any materials or start of any Work.

Copy to ENGINEER:

AKT Peerless Environmental & Energy Services,
214 Janes Avenue, Saginaw, Michigan 48607
Attn: Ryan T. Londrigan, CHMM
email: Ryan@aktpeerless.com

Saginaw County Building Authority (AUTHORITY)

By: _____
(Authorized Signature)

TABLE OF CONTENTS

GENERAL CONDITIONS

ARTICLE 1 - DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

A. Wherever used in the Bidding Requirements or Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.

1. *Addenda*--Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.

2. *Agreement*--The written instrument which is evidence of the agreement between Owner and Contractor covering the Work.

3. *Application for Payment*--The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

4. *Asbestos*--Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.

5. *Bid*--The offer or proposal of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

6. *Bidder*--The individual or entity who submits a Bid directly to Owner.

7. *Bidding Documents*--The Bidding Requirements and the proposed Contract Documents (including all Addenda).

8. *Bidding Requirements*--The Advertisement or Invitation to Bid, Instructions to Bidders, bid security of acceptable form, if any, and the Bid Form with any supplements.

9. *Change Order*--A document recommended by Engineer which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.

10. *Claim*--A demand, assertion, or legal or arbitration proceeding by Owner or Contractor seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms or performance of the Contract. A demand for money or services by a third party is not a Claim.

11. *Contract*--The entire and integrated written agreement between the Owner and Contractor concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

12. *Contract Documents*-- Those items so designated in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents. Approved Shop Drawings, other Contractor's submittals, and the reports and drawings of subsurface and physical conditions are not Contract Documents.

13. *Contract Price*--The moneys payable by Owner to Contractor for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of Paragraph 11.03 in the case of Unit Price Work).

14. *Contract Times*--The number of days or the dates stated in the Agreement to: (i) achieve Milestones, if any, (ii) achieve Substantial Completion; and (iii) complete the Work so that it is ready for final payment as evidenced by Engineer's written recommendation of final payment.

15. *Contractor*--The individual or entity with whom Owner has entered into the Agreement.

16. *Cost of the Work*--See Paragraph 11.01.A for definition.

17. *Drawings*--That part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Work to be performed by Contractor. Shop Drawings and other Contractor submittals are not Drawings as so defined.

18. *Effective Date of the Agreement*--The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

19. *Engineer*--The individual or entity named as such in the Agreement.

20. *Field Order*--A written order issued by Engineer which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.

21. *General Requirements*--Sections of Division 1 of the Specifications. The General Requirements pertain to all sections of the Specifications.

22. *Hazardous Environmental Condition*—The presence at the Site of any substance regulated by federal, state or local law or regulation with regard to the health, safety or environmental impact of such substance, at levels or in amounts which are subject to such laws or regulations.

23. *Hazardous Waste*--The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.

24. *Laws and Regulations; Laws or Regulations*--Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

25. *Liens*--Charges, security interests, or encumbrances upon Project funds, real property, or personal property.

26. *Milestone*--A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

27. *Notice of Award*--The written notice clearly identified as "Notice of Award" by Owner to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, Owner will sign and deliver the Agreement.

28. *Notice to Proceed*--A written notice given by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work under the Contract Documents.

29. *Owner*--The individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed.

30. *PCBs*--Polychlorinated biphenyls.

31. *Petroleum*--Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.

32. *Progress Schedule*--A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.

33. *Project*--The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.

34. *Project Manual*--The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.

35. *Radioactive Material*--Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.

36. *Related Entity* -- An officer, director, partner, employee, agent, consultant, or subcontractor.

37. *Resident Project Representative*--The authorized representative of Engineer who may be assigned to the Site or any part thereof.

38. *Samples*--Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.

39. *Schedule of Submittals*--A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to support scheduled performance of related construction activities.

40. *Schedule of Values*--A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

41. *Shop Drawings*--All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.

42. *Site*--Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands

furnished by Owner which are designated for the use of Contractor.

43. *Specifications*--That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable thereto.

44. *Subcontractor*--An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work at the Site.

45. *Substantial Completion*--The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.

46. *Successful Bidder*--The Bidder submitting a responsive Bid to whom Owner makes an award.

47. *Supplementary Conditions*--That part of the Contract Documents which amends or supplements these General Conditions.

48. *Supplier*--A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or any Subcontractor.

49. *Underground Facilities*--All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.

50. *Unit Price Work*--Work to be paid for on the basis of unit prices.

51. *Work*--The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.

52. *Work Change Directive*--A written statement to Contractor issued on or after the Effective Date of the Agreement and signed by Owner and recommended by Engineer ordering an addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the change ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

53. *Controlling Operation*—The operation that, if delayed at the time of consideration, would delay the completion of the entire project. The controlling operation will be identified approved progress schedule developed by the Contractor.

1.02 *Terminology*

A. The following words or terms are not defined but, when used in the Bidding Requirements or Contract Documents, have the following meaning.

B. Intent of Certain Terms or Adjectives

1. The Contract Documents include the terms "as allowed," "as approved," "as ordered", "as directed" or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives "reasonable," "suitable," "acceptable," "proper," "satisfactory," or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action or determination will be solely to evaluate, in general, the Work for compliance with the requirements of and information in the Contract Documents and conformance with the design concept of the completed Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of Paragraph 9.09 or any other provision of the Contract Documents.

C. *Day*

1. The word "day" means a calendar day of 24 hours measured from midnight to the next midnight.

D. *Defective*

1. The word "defective," when modifying the word "Work," refers to Work that is unsatisfactory, faulty, or deficient in that it:

a. does not conform to the Contract Documents, or

b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents, or

c. has been damaged prior to Engineer's - recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 14.04 or 14.05).

E. *Furnish, Install, Perform, Provide*

1. The word "furnish," when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.

2. The word "install," when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.

3. The words "perform" or "provide," when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.

4. When "furnish," "install," "perform," or "provide" is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of Contractor, "provide" is implied.

F. Unless stated otherwise in the Contract Documents, words or phrases which have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 - PRELIMINARY MATTERS

2.01 *Delivery of Bonds and Evidence of Insurance*

A. When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.

B. *Evidence of Insurance:* Before any Work at the Site is started, Contractor shall deliver to the Owner**,** with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which Contractor is required to purchase and maintain in accordance with Article 5.

2.02 *Copies of Documents*

A. Owner shall furnish to Contractor up to ten printed or hard copies of the Drawings and Project Manual. Additional copies will be furnished upon request at the cost of reproduction.

2.03 *Commencement of Contract Times; Notice to Proceed*

A. The Contract Times will commence to run on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 45 days after the Effective Date of the Agreement.

2.04 *Starting the Work*

A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to the date on which the Contract Times commence to run.

2.05 *Before Starting Construction*

A. *Preliminary Schedules:* Within 10 days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), Contractor shall submit to Engineer for timely review**:**

1. a preliminary Progress Schedule; indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;

2. a preliminary Schedule of Submittals; and

3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.06 *Preconstruction Conference*

A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.05.A, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.

2.07 *Initial Acceptance of Schedules*

A. At least 10 days before submission of the first Application for Payment a conference attended by Contractor, Engineer, and others as appropriate will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.05.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.

1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work nor interfere with or relieve Contractor from Contractor's full responsibility therefore.

2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.

3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

ARTICLE 3 - CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 *Intent*

A. The Contract Documents are complementary; what is required by one is as binding as if required by all.

B. It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that may reasonably be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the intended result will be provided whether or not specifically called for at no additional cost to Owner.

C. Clarifications and interpretations of the Contract Documents shall be issued by Engineer as provided in Article 9.

D. In case of discrepancy, figure dimensions shall govern over calculated dimensions and calculated dimensions shall govern over scaled dimensions.

3.02 *Reference Standards*

A. Standards, Specifications, Codes, Laws, and Regulations

1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.

2. No provision of any such standard, specification, manual or code, or any instruction of a Supplier shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees from those set forth in the Contract Documents. No such provision or instruction shall be effective to assign to Owner, or Engineer, or any of, their Related Entities, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

3.03 *Reporting and Resolving Discrepancies*

A. Reporting Discrepancies

1. *Contractor's Review of Contract Documents Before Starting Work*: Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy which Contractor may discover and shall obtain a written interpretation or clarification from Engineer before proceeding with any Work affected thereby.

2. *Contractor's Review of Contract Documents During Performance of Work*: If, during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents

or between the Contract Documents and any provision of any Law or Regulation applicable to the performance of the Work or of any standard, specification, manual or code, or of any instruction of any Supplier, Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in Paragraph 3.04.

3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor knew or reasonably should have known thereof.

B. Resolving Discrepancies

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:

a. the provisions of any standard, specification, manual, code, or instruction (whether or not specifically incorporated by reference in the Contract Documents); or

b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Amending and Supplementing Contract Documents*

A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof by either a Change Order or a Work Change Directive.

B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, by one or more of the following ways:

1. A Field Order;

2. Engineer's written approval of a Shop Drawing or Sample; (Subject to the provisions of Paragraph 6.17.D.3); or

3. Engineer's written interpretation or clarification.

3.05 *Reuse of Documents*

A. Contractor and any Subcontractor or Supplier or other individual or entity performing or furnishing all of the Work under a direct or indirect contract with Contractor, shall not:

1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or Engineer's consultants, including electronic media editions; or

2. reuse any of such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer.

B. The prohibition of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

3.06 *Electronic Data*

A. Copies of data furnished by Owner or Engineer to Contractor or Contractor to Owner or Engineer that may be relied upon are limited to the printed copies (also known as hard copies). Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.

B. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the transferring party.

C. When transferring documents in electronic media format, the transferring party makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator.

ARTICLE 4 - AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS; REFERENCE POINTS

4.01 *Availability of Lands*

A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work. Owner will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If Contractor and Owner are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of any delay in Owner's furnishing the Site or a part thereof, Contractor may make a Claim therefore as provided in Paragraph 10.05.

B. NOT USED

C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.02 *Subsurface and Physical Conditions*

A. *Reports and Drawings:* The Supplementary Conditions identify:

1. those reports of explorations and tests of subsurface conditions at or contiguous to the Site that Engineer has used in preparing the Contract Documents; and

2. those drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) that Engineer has used in preparing the Contract Documents.

B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the general accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their Related Entities with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or

2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or

3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions, or information.

4.03 *Differing Subsurface or Physical Conditions*

A. *Notice:* If Contractor believes that any subsurface or physical condition other than Underground Facilities at or contiguous to the Site that is uncovered or revealed either:

1. is of such a nature as to establish that any "technical data" on which Contractor is entitled to rely as provided in Paragraph 4.02 is materially inaccurate; or

2. is of such a nature as to require a change in the Contract Documents; or

3. differs materially from that shown or indicated in the Contract Documents; or

4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

B. *Engineer's Review*: After receipt of written notice as required by Paragraph 4.03.A, Engineer will promptly review the pertinent condition, determine the necessity of Owner's obtaining additional exploration or tests with respect thereto, and advise Owner in writing (with a copy to Contractor) of Engineer's findings and conclusions.

C. *Possible Price and Times Adjustments*

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in Contractor's

cost of, or time required for, performance of the Work; subject, however, to the following:

a. such condition must meet any one or more of the categories described in Paragraph 4.03.A; and

b. with respect to Work that is paid for on a Unit Price Basis, any adjustment in Contract Price will be subject to the provisions of Paragraphs 9.07 and 11.03.

2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times if:

a. Contractor knew of the existence of such conditions at the time Contractor made a final commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract; or

b. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such final commitment; or

c. Contractor failed to give the written notice as required by Paragraph 4.03.A.

3. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefore as provided in Paragraph 10.05. However, Owner and Engineer, and any of their Related Entities shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

4.04 *Underground Facilities*

A. *Shown or Indicated:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

1. Owner and Engineer shall not be responsible for the accuracy or completeness of any such information or data; and

2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:

a. reviewing and checking all such information and data,

b. locating all Underground Facilities shown or indicated in the Contract Documents,

c. coordination of the Work with the owners of such Underground Facilities, including Owner, during construction, and

d. the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

B. *Not Shown or Indicated*

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer. Engineer will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

2. If Engineer concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, Owner or Contractor may make a Claim therefore as provided in Paragraph 10.05.

4.05 *Reference Points*

A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.06 *Hazardous Environmental Condition at Site*

A. *Reports and Drawings:* Reference is made to the Supplementary Conditions for the identification of those reports and drawings relating to a Hazardous Environmental Condition identified at the Site, if any, that have been utilized by the Engineer in the preparation of the Contract Documents.

B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the general accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their Related Entities with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or

2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or

3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions or information.

C. Contractor shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. Contractor shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible.

D. If Contractor encounters a Hazardous Environmental Condition or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, Contractor shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 6.16.A); and (iii) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any.

E. Contractor shall not be required to resume Work in connection with such condition or in any affected area until after Owner has obtained any required permits related thereto and delivered to Contractor written notice: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, either party may make a Claim therefore as provided in Paragraph 10.05.

F. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefore as provided in Paragraph 10.05. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 7.

G. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous

Environmental Condition, provided that such Hazardous Environmental Condition: (i) was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be included within the scope of the Work, and (ii) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.G shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

H. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.H shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

I. The provisions of Paragraphs 4.02, 4.03, and 4.04 do not apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 5 - BONDS AND INSURANCE

5.01 *Performance, Payment, and Other Bonds*

A. Contractor shall furnish performance and payment bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all of Contractor's obligations under the Contract Documents. These bonds shall remain in effect until two years after the date when final payment becomes due or until completion of the correction period specified in Paragraph 13.07, whichever is later, except as provided otherwise by Laws or Regulations or by the Contract Documents. Contractor shall also furnish such other bonds as are required by the Contract Documents.

B. All bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent must be accompanied by a certified copy of the agent's authority to act. Additionally, the bonds shall be executed by sureties with an A.M. Best rating of "A" or better.

C. If the surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of Paragraph 5.01.B, Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the requirements of Paragraphs 5.01.B and 5.02.

5.02 *Licensed Sureties and Insurers*

A. All bonds and insurance required by the Contract Documents to be purchased and maintained by Owner or Contractor shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.03 *Certificates of Insurance*

A. Contractor shall deliver to Owner and Engineer, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Owner or any other additional insured) which Contractor is required to purchase and maintain.

5.04 *Contractor's Liability Insurance*

A. Contractor shall purchase and maintain such liability and other insurance as is appropriate for the Work being performed and as will provide protection from the types of claims set forth below that may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:

1. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees; including but not limited to claims under workers' compensation, disability benefits, and other similar employee benefit acts;

2. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;

3. claims for damages insured by reasonably available personal injury liability coverage which are sustained:

(a) by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or

(b) by any other person for any other reason;

4. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom;

5. claims for damages of bodily injury or death of any person or property or property arising out of the ownership, maintenance or use of any motor vehicle;

6. all claims arising out of pollution conditions created or exacerbated during performance of the Work; and

B. The policies of insurance required by this Paragraph 5.04 shall:

1. with respect to insurance required by Paragraphs 5.04.A.2 through 5.04.A.6 inclusive,

(a) include as additional insured (subject to any customary exclusion regarding professional liability) Owner and Engineer, and any other individuals or entities identified in Paragraph SC-5.04 of the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, partners, employees, agents, consultants and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary noncontributory coverage for all claims covered thereby

(b) include a waiver of subrogation rights endorsement;

2. include at least the specific coverages and be written for not less than the limits of liability provided in the Paragraph 5.04.C or required by Laws or Regulations, whichever is greater;

3. include products and completed operations insurance and eliminate any exclusion with regard to property under the care, custody and control of Contractor.

4. include contractural liability insurance covering Contractor's indemnity obligations under the Contract Documents;

5. include broad form property damage;

6. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the Contractor pursuant to Paragraph 5.03 will so provide);

7. remain in effect at least until final payment and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work in accordance with paragraph 13.07;

8. with respect to completed operations insurance, remain in effect for at least two years after final payment;

9. be written by an insurer having a rating of "A" or better in the most recent A.M. Best Rating Guide;

10. be written in occurrence form;

11. property damage liability insurance will provide explosion, collapse, and underground coverages;

12. Contractor shall furnish Owner and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to Owner and any such additional insured of continuation of such insurance at final payment and one year thereafter; and

13. All insurance coverage except that required per 5.04.A.1 and 5.04.A.5 shall be written on a project specific basis.

C. The limits of liability for the insurance required by Paragraph 5.04 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations:

1. Worker's Compensation and related coverages under Paragraphs 5.04.A.1 of the General Conditions;

a.	per injury	$500,000
b.	per policy	$500,000
c.	disease limit	$500,000

2. Contractor's General Liability under Paragraphs 5.04.A.2 through A.4 of the General Conditions:

a.	General – Aggregate	$2,000,000
b.	Products – Completed Operations:	$1,000,000
c.	Each Occurrence (Bodily Injury and Property Damage)	$1,000,000
d.	The Contractural Liability coverage required by Paragraph 5.04.A.4:	$1,000,000

3. Automobile Liability under Paragraph 5.04.A.5 of the General Conditions:

a.	Bodily Injury	
	Each Person	$500,000
	Each Accident	$1,000,000
and		
	Property Damage	
	Each Accident,	$500,000
or		
b.	Combined Single Limit of	$1,000,000

4. Excess Umbrella Policy

a.	General Aggregate	$2,000,000
b.	Each Occurrence	$2,000,000

5.05 *Owner's Liability Insurance*

a. In addition to the insurance required to be provided by Contractor under paragraph 5.04, the Contractor shall purchase and maintain at his expense Owner's Protective Liability insurance as will protect Owner, its officers, agents and employees, against claims which may arise from operations under the Contract Documents.

$1,000,000	Per Occurrence
$2,000,000	Aggregate

b. Said insurance is to provide coverage for the contingent liability of the Owner for personal injury and property damage arising out of the Work performed by the Contractor and all Sub-Contractors (including sub-subcontractors), including loss due to perils of explosion, collapse and underground hazards.

5.06 *Other Insurance*

In addition to the insurance required to be provided by the Contractor under Paragraphs 5.04 and 5.05, the Contractor shall purchase and maintain at his expenses specific project insurance as described in the Supplementary Conditions.

5.07 *Acceptance of Bonds and Insurance; Option to Replace*

If either Owner or Contractor has any objection to the coverage afforded by or other provisions of the bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by Paragraph 2.01.B. Owner and Contractor shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

5.08 *Partial Utilization, Acknowledgment of Property Insurer* N/A

5.09 Subcontractor Insurance

A. When directed by Owner, Contractor shall require the Subcontractors to purchase and maintain one or more of the coverages in Paragraph 5.04 or such specialty coverage as specified by the Owner in the Supplementary Conditions.

ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES

6.01 *Supervision and Superintendence*

A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction. Contractor shall not be responsible for the negligence of Owner or Engineer in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents.

B. At all times during the progress of the Work, Contractor shall assign a competent resident superin-

tendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances. The superintendent will be Contractor's representative at the Site and shall have authority to act on behalf of Contractor. All communications given to or received from the superintendent shall be binding on Contractor.

6.02 *Labor; Working Hours*

A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.

B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours. Contractor will not permit the performance of Work on a Saturday, Sunday, or any legal holiday without Owner's written consent (which will not be unreasonably withheld) given after prior written notice to Engineer.

6.03 *Services, Materials, and Equipment*

A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work.

B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.

C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

6.04 *Progress Schedule*

A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.07 as it may be adjusted from time to time as provided below.

1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.07) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times. Such adjustments will comply with any provisions of the General Requirements applicable thereto.

2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 12. Adjustments in Contract Times may only be made by a Change Order.

6.05 *Substitutes and "Or-Equals"*

A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to Engineer for review under the circumstances described below.

1. "*Or-Equal" Items:* If in Engineer's sole discretion an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by Engineer as an "or-equal" item, in which case review and approval of the proposed item may, in Engineer's sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this Paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:

a. in the exercise of reasonable judgment Engineer determines that:

1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;

2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole,

3) it has a proven record of performance and availability of responsive service; and

b. Contractor certifies that, if approved and incorporated into the Work:

1) there will be no increase in cost to the Owner or increase in Contract Times, and

2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.

2. Substitute Items

a. If in Engineer's sole discretion an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item under Paragraph 6.05.A.1, it will be considered a proposed substitute item.

b. Contractor shall submit sufficient information as provided below to allow Engineer to determine that the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefore. Requests for review of proposed substitute items of material or equipment will not be accepted by Engineer from anyone other than Contractor.

c. The requirements for review by Engineer will be as set forth in Paragraph 6.05.A.2.d, as supplemented in the General Requirements and as Engineer may decide is appropriate under the circumstances.

d. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:

1) shall certify that the proposed substitute item will:

a) perform adequately the functions and achieve the results called for by the general design,

b) be similar in substance to that specified, and

c) be suited to the same use as that specified;

2) will state:

a) the extent, if any, to which the use of the proposed substitute item will prejudice Contractor's achievement of Substantial Completion on time;

b) whether or not use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item; and

c) whether or not incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty;

3) will identify:

a) all variations of the proposed substitute item from that specified , and

b) available engineering, sales, maintenance, repair, and replacement services;

4) and shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change,

B. *Substitute Construction Methods or Procedures:* If a specific means, method, technique, sequence, or procedure of construction is expressly required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by Engineer. Contractor shall submit sufficient information to allow Engineer, in Engineer's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The requirements for review by Engineer will be similar to those provided in Paragraph 6.05.A.2.

C. *Engineer's Evaluation:* Engineer will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to Paragraphs 6.05.A and 6.05.B. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No "or equal" or substitute will be ordered, installed or utilized until Engineer's review is complete, which will be evidenced by either a Change Order for a substitute or an approved Shop Drawing for an "or equal." Engineer will advise Contractor in writing of any negative determination.

D. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special

performance guarantee or other surety with respect to any substitute.

E. *Engineer's Cost Reimbursement*: Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor pursuant to Paragraphs 6.05.A.2 and 6.05.B Whether or not Engineer approves a substitute item so proposed or submitted by Contractor, Contractor shall reimburse Owner for the charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.

F. *Contractor's Expense*: Contractor shall provide all data in support of any proposed substitute or "or-equal" at Contractor's expense.

6.06 *Concerning Subcontractors, Suppliers, and Others*

A. Contractor shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to Owner as indicated in Paragraph 6.06.B), whether initially or as a replacement, against whom Owner may have reasonable objection. Contractor shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom Contractor has reasonable objection.

B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to Owner in advance for acceptance by Owner by a specified date prior to the Effective Date of the Agreement, and if Contractor has submitted a list thereof in accordance with the Supplementary Conditions, Owner's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of any right of Owner or Engineer to reject defective Work.

C. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the Contract Documents:

1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier or other individual or entity, nor

2. shall anything in the Contract Documents create any obligation on the part of Owner or Engineer to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

D. Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with Contractor.

E. Contractor shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with Engineer through Contractor.

F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

G. All Work performed for Contractor by a Subcontractor or Supplier will be pursuant to an appropriate agreement between Contractor and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer.

H. The Owner shall be a third-party beneficiary of all subcontracts entered into by the Contractor.

6.07 *Patent Fees and Royalties*

A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if to the actual knowledge of Owner or Engineer its use is subject to patent rights or copyrights calling for the payment of any

license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.

B. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

6.08 *Permits*

A. Unless otherwise provided in the Supplementary Conditions, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary and requested in writing by the Contractor, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. Owner shall pay all charges of utility owners for connections for providing permanent service to the Work. Permits are listed in General Requirements, Section Regulatory Requirements.

6.09 *Laws and Regulations*

A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.

B. If Contractor performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work. However, it shall not be Contractor's primary responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.

C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work shall be the subject of an adjustment in Contract Price or Contract Times. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

6.10 *Taxes*

A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

6.11 *Use of Site and Other Areas*

A. Limitation on Use of Site and Other Areas

1. Contractor shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.

2. Should any claim be made by any such owner or occupant because of the performance of the Work, Contractor shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.

3. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused by or based upon Contractor's performance of the Work.

B. *Removal of Debris During Performance of the Work:* During the progress of the Work Contractor shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and

disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.

C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

D. *Loading Structures:* Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

6.12 *Record Documents*

A. Contractor shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, and written interpretations and clarifications in good order and annotated to show changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to Engineer for reference. Upon completion of the Work, these record documents, Samples, and Shop Drawings will be delivered to Engineer for Owner.

6.13 *Safety and Protection*

A. Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

1. all persons on the Site or who may be affected by the Work;

2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and

3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.

B. Contractor shall be solely responsible for complying with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.

C. All damage, injury, or loss to any property referred to in Paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or , or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).

D. Contractor's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

6.14 *Safety Representative*

A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

6.15 *Hazard Communication Programs*

A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

6.16 *Emergencies*

A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are

required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

6.17 *Shop Drawings and Samples*

A. Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the acceptable Schedule of Submittals (as required by Paragraph 2.07). Each submittal will be identified as Engineer may require.

1. Shop Drawings

a. Submit number of copies specified in the General Requirements.

b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 6.17.D.

2. *Samples:* Contractor shall also submit Samples to Engineer for review and approval in accordance with the acceptable schedule of Shop Drawings and Sample submittals.

a. Submit number of Samples specified in the Specifications.

b. Clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 6.17.D.

B. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. *Submittal Procedures*

1. Before submitting each Shop Drawing or Sample, Contractor shall have determined and verified:

a. all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;

b. the suitability of all materials with respect to intended use, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work;

c. all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto; and

d. shall also have reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents.

2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review and approval of that submittal.

3. With each submittal, Contractor shall give Engineer specific written notice of any variations, that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be both a written communication separate from the Shop Drawing's or Sample Submittal; and, in addition, by a specific notation made on each Shop Drawing or Sample submitted to Engineer for review and approval of each such variation.

D. *Engineer's Review*

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.

2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

3. Engineer's review and approval shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 6.17.C.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer's review and approval shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 6.17.C.1.

E. *Resubmittal Procedures*

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.

6.18 *Continuing the Work*

A. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by Paragraph 15.04 or as Owner and Contractor may otherwise agree in writing.

6.19 *Contractor's General Warranty and Guarantee*

A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its Related Entities shall be entitled to rely on representation of Contractor's warranty and guarantee.

B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:

1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or

2. normal wear and tear under normal usage.

C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:

1. observations by Engineer;

2. recommendation by Engineer or payment by Owner of any progress or final payment;

3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;

4. use or occupancy of the Work or any part thereof by Owner;

5. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by Engineer;

6. any inspection, test, or approval by others; or

7. any correction of defective Work by Owner.

6.20 *Indemnification*

A. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable.

B. In any and all claims against Owner or Engineer or any of their respective consultants, agents, officers, directors, partners, or employees by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the

indemnification obligation under Paragraph 6.20A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

C. The indemnification obligations of Contractor under Paragraph 6.20A shall not extend to the liability of Engineer and Engineer's officers, directors, partners, employees, agents, consultants and subcontractors arising solely out of:

1. the preparation or approval of, or the failure to prepare or approve, maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or

2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

6.21 *Delegation of Professional Design Services*

A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable law.

B. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.

C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.

D. Pursuant to this Paragraph 6.21, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 6.17.D.1.

E. Contractor shall not be responsible for the adequacy of the performance or design criteria required by the Contract Documents.

ARTICLE 7 - OTHER WORK AT THE SITE

7.01 *Related Work at Site*

A. Owner may perform other work related to the Project at the Site with Owner's employees, or via other direct contracts therefore, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:

1. written notice thereof will be given to Contractor prior to starting any such other work; and

2. if Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefore as provided in Paragraph 10.05.

B. Contractor shall afford each other contractor who is a party to such a direct contract, each utility owner and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and shall properly coordinate the Work with theirs. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering their work and will only cut or alter their work with the written consent of Engineer and the others whose work will be affected. The duties and responsibilities of Contractor under this Paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of Contractor in said direct contracts between Owner and such utility owners and other contractors.

C. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 7, Contractor shall inspect such other work and promptly report to Engineer in writing any

delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

7.02 *Coordination*

A. If Owner intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:

1. the individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;

2. the specific matters to be covered by such authority and responsibility will be itemized; and

3. the extent of such authority and responsibilities will be provided.

B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

7.03 *Legal Relationships*

A. Paragraphs 7.01.A and 7.02 are not applicable for utilities not under the control of Owner.

B. Each other direct contract of Owner under Paragraph 7.01.A shall provide that the other contractor is liable to Owner and Contractor for the reasonable direct delay and disruption costs incurred by Contractor as a result of the other contractor's actions or inactions.

C. Contractor shall be liable to Owner and any other contractor for the reasonable direct delay and disruption costs incurred by such other contractor as a result of Contractor's action or inactions.

ARTICLE 8 - OWNER'S RESPONSIBILITIES

8.01 *Communications to Contractor*

A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

8.02 *Replacement of Engineer*

A. In case of termination of the employment of Engineer, Owner shall appoint an engineer to whom Contractor makes no reasonable objection, whose status under the Contract Documents shall be that of the former Engineer.

8.03 *Furnish Data*

A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

8.04 *Pay When Due*

A. Owner shall make payments to Contractor when they are due as provided in Paragraphs 14.02.C and 14.07.C.

8.05 *Lands and Easements; Reports and Tests*

A. Owner's duties in respect of providing lands and easements and providing engineering surveys to establish reference points are set forth in Paragraphs 4.01 and 4.05. Paragraph 4.02 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site that have been utilized by Engineer in preparing the Contract Documents.

8.06 *Insurance*

A. Owner's responsibilities, if any, in respect to purchasing and maintaining liability and property insurance are set forth in Article 5.

8.07 *Change Orders*

A. Owner is obligated to execute Change Orders as indicated in Paragraph 10.03.

8.08 *Inspections, Tests, and Approvals*

A. Owner's responsibility in respect to certain inspections, tests, and approvals is set forth in Paragraph 13.03.B.

8.09 *Limitations on Owner's Responsibilities*

A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

8.10 *Undisclosed Hazardous Environmental Condition*

A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 4.06.

8.11 *Evidence of Financial Arrangements*

A. If and to the extent Owner has agreed to furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents, Owner's responsibility in respect thereof will be as set forth in the Supplementary Conditions.

ARTICLE 9 - ENGINEER'S STATUS DURING CONSTRUCTION

9.01 *Owner's Representative*

A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract Documents and will not be changed without written consent of Owner and Engineer.

9.02 *Visits to Site*

A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.

B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 9.09. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

9.03 *Project Representative*

A. If Owner and Engineer agree, Engineer will furnish a Resident Project Representative to assist Engineer in providing more extensive observation of the Work. The authority and responsibilities of any such Resident Project Representative and assistants will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 9.09. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

9.04 *Authorized Variations in Work*

A. Engineer may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on Owner and also on Contractor, who shall perform the Work involved promptly. If Owner or Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, and the parties are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefore as provided in Paragraph 10.05.

9.05 *Rejecting Defective Work*

A. Engineer will have authority to reject Work which Engineer believes to be defective, or that Engineer believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Engineer will also have authority to require special inspection or testing of the Work as provided in Paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

9.06 *Shop Drawings, Change Orders and Payments*

A. In connection with Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, see Paragraph 6.17.

B. In connection with Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, see Paragraph 6.21.

C. In connection with Engineer's authority as to Change Orders, see Articles 10, 11, and 12.

D. In connection with Engineer's authority as to Applications for Payment, see Article 14.

9.07 *Determinations for Unit Price Work*

A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of Paragraph 10.05.

9.08 *Decisions on Requirements of Contract Documents and Acceptability of Work*

A. Engineer will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. All matters in question and other matters between Owner and Contractor arising prior to the date final payment is due relating to the acceptability of the Work, and the interpretation of the requirements of the Contract Documents pertaining to the performance of the Work, will be referred initially to Engineer in writing within 30 days of the event giving rise to the question

B. Engineer will, with reasonable promptness, render a written decision on the issue referred. If Owner or Contractor believe that any such decision entitles them to an adjustment in the Contract Price or Contract Times or both, a Claim may be made under Paragraph 10.05. The date of Engineer's decision shall be the date of the event giving rise to the issues referenced for the purposes of Paragraph 10.05.B.

C. Engineer's written decision on the issue referred will be final and binding on Owner and Contractor, subject to the provisions of Paragraph 10.05.

D. When functioning as interpreter and judge under this Paragraph 9.08, Engineer will not show partiality to Owner or Contractor and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity.

9.09 *Limitations on Engineer's Authority and Responsibilities*

A. Neither Engineer's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 14.07.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals that the results certified indicate compliance with the Contract Documents.

E. The limitations upon authority and responsibility set forth in this Paragraph 9.09 shall also apply to, the Resident Project Representative, if any, and assistants, if any.

ARTICLE 10 - CHANGES IN THE WORK; CLAIMS

10.01 *Authorized Changes in the Work*

A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Change Order, or a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved which will be

performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

B. If Owner and Contractor are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefor as provided in Paragraph 10.05.

10.02 *Unauthorized Changes in the Work*

A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in Paragraph 3.04, except in the case of an emergency as provided in Paragraph 6.16 or in the case of uncovering Work as provided in Paragraph 13.04.B.

10.03 *Execution of Change Orders*

A. Owner and Contractor shall execute appropriate Change Orders recommended by Engineer covering:

1. changes in the Work which are: (i) ordered by Owner pursuant to Paragraph 10.01.A, (ii) required because of acceptance of defective Work under Paragraph 13.08.A or Owner's correction of defective Work under Paragraph 13.09, or (iii) agreed to by the parties;

2. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive; and

3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by Engineer pursuant to Paragraph 10.05; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, Contractor shall carry on the Work and adhere to the Progress Schedule as provided in Paragraph 6.18.A.

10.04 *Notification to Surety*

A. If notice of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times) is required by the provisions of any bond to be given to a surety, the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

10.05 *Claims*

A. *Engineer's Decision Required*: All Claims, except those waived pursuant to Paragraph 14.09, shall be referred to the Engineer for decision. A decision by Engineer shall be required as a condition precedent to any exercise by Owner or Contractor of any rights or remedies either may otherwise have under the Contract Documents or by Laws and Regulations in respect of such Claims.

B. *Notice:* Written notice stating the general nature of each Claim, shall be delivered by the claimant to Engineer and the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto. The responsibility to substantiate a Claim shall rest with the party making the Claim. Notice of the amount or extent of the Claim, with supporting data shall be delivered to the Engineer and the other party to the Contract within 60 days after the start of such event (unless Engineer allows additional time for claimant to submit additional or more accurate data in support of such Claim). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of Paragraph 12.01.B. A Claim for an adjustment in Contract Time shall be prepared in accordance with the provisions of Paragraph 12.02.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to Engineer and the claimant within 30 days after receipt of the claimant's last submittal (unless Engineer allows additional time).

C. *Engineer's Action*: Engineer will review each Claim and, within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any, take one of the following actions in writing:

1. deny the Claim in whole or in part,

2. approve the Claim, or

3. notify the parties that the Engineer is unable to resolve the Claim if, in the Engineer's sole discretion, it would be inappropriate for the Engineer to do so. For purposes of further resolution of the Claim, such notice shall be deemed a denial.

D. In the event that Engineer does not take action on a Claim within said 30 days, the Claim shall be deemed denied.

E. Engineer's written action under Paragraph 10.05.C or denial pursuant to Paragraphs 10.05.C.3 or

10.05.D will be final and binding upon Owner and Contractor, unless Owner or Contractor invoke the dispute resolution procedure set forth in Article 16 within 30 days of such action or denial.

F. No Claim for an adjustment in Contract Price or Contract Times will be valid if not submitted in accordance with this Paragraph 10.05.

ARTICLE 11 - COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

11.01 *Cost of the Work*

A. *Costs Included:* The term Cost of the Work means the sum of all costs, except those excluded in Paragraph 11.01.B, necessarily incurred and paid by Contractor in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to Contractor will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by Owner, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall include only the following items, and shall not include any of the costs itemized in Paragraph 11.01.B.

1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time at the Site. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, taxes, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.

3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 11.01.

4. Costs of special consultants (including but not limited to Engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.

5. Supplemental costs including the following:

a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.

b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.

c. Construction Equipment and Machinery:

1. Rentals of all construction equipment and machinery, and the parts thereof in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.

2. Costs for equipment and machinery owned by Contractor will be paid at a rate shown for such equipment in the *["Rental Rate Blue Book", Equipment Watch, Intertec Publishing]*. An hourly rate will be computed by dividing the monthly rates by 176. These computed rates will include all operating costs. Costs will include the time the equipment or machinery is in use on the changed Work and the costs of transportation, loading, unloading, assembly, dismantling, and removal when

directly attributable to the changed Work. The cost of any such equipment or machinery, or parts thereof, shall cease to accrue when the use thereof is no longer necessary for the changed Work. Equipment or machinery with a value of less than $1,000 will be considered small tools.

d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, imposed by Laws and Regulations.

e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.

f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work, provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.

g. The cost of utilities, fuel, and sanitary facilities at the Site.

h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, expresses, and similar petty cash items in connection with the Work.

i. The costs of premiums for all bonds and insurance Contractor is required by the Contract Documents to purchase and maintain.

B. *Costs Excluded:* The term Cost of the Work shall not include any of the following items:

1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expediters, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 11.01.A.1 or specifically covered by Paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the Contractor's fee.

2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.

3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.

4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.

5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraphs 11.01.A.

C. *Contractor's Fee:* When all the Work is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in Paragraph 12.01.C. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 12.01.C.

D. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to Paragraphs 11.01.A and 11.01.B, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

11.02 *Allowances*

A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.

B. *Cash Allowances*

1. Contractor agrees that:

a. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and

b. Contractor's costs for unloading and handling on the Site, labor, installation , overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.

C. *Contingency Allowance*

1. Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.

D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.03 *Unit Price Work*

A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.

B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by Contractor will be made by Engineer subject to the provisions of Paragraph 9.07.

C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.

D. The unit price of an item of Unit Price Work shall be subject to reevaluation and adjustment under the following conditions:

1. if the Bid price of a particular item of Unit Price Work amounts to 5 percent or more of the Contract Price and the variation in the quantity of that particular item of Unit Price Work performed by Contractor differs by more than 25 percent from the estimated quantity of such item indicated in the Agreement; and

2. if there is no corresponding adjustment with respect to any other item of Work; and

3. if Contractor believes that Contractor has incurred additional expense as a result thereof or if Owner believes that the quantity variation entitles Owner to an adjustment in the unit price, either Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Article 10 if the parties are unable to agree as to the effect of any such variations in the quantity of Unit Price Work performed.

ARTICLE 12 - CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

12.01 *Change of Contract Price*

A. The Contract Price may only be changed by a Change Order. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.

B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:

1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 11.03); or

2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 12.01.C.2); or

3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under Paragraph 12.01.B.2, on the basis of the Cost of the Work (determined as provided in Paragraph 11.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 12.01.C).

C. *Contractor's Fee:* The Contractor's fee for overhead and profit shall be determined as follows:

1. a mutually acceptable fixed fee; or

2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:

a. for costs incurred under Paragraphs 11.01.A.1 and 11.01.A.2, the Contractor's fee shall be 20 percent;

b. for costs incurred under Paragraph 11.01.A.3, the Contractor's fee shall be five percent;

c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraph 12.01.C.2.a is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 20 percent of the costs incurred by such Subcontractor under Paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and Contractor will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;

d. no fee shall be payable on the basis of costs itemized under Paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;

e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and

f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 12.01.C.2.a through 12.01.C.2.e, inclusive.

12.02 *Change of Contract Times*

A. The Contract Times may only be changed by a Change Order. Any Claim for an adjustment in the Contract Times shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.

B. Any adjustment of the Contract Times covered by a Change Order or any Claim for an adjustment in the Contract Times will be determined in accordance with the provisions of this Article 12.

12.03 *Delays*

A. Where Contractor is prevented from completing any part of the Work within the Contract Times due to delay beyond the control of Contractor, the Contract Times will be extended in an amount equal to the time lost due to such delay if a Claim is made therefore as provided in Paragraph 12.02.A. Delays beyond the control of Contractor shall include, but not be limited to, acts or neglect by Owner, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.

B. If Owner, Engineer, or other contractors or utility owners performing other work for Owner as contemplated by Article 7, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times , or both. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.

C. If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal weather conditions, acts of God, acts or failures to act of utility owners not under the control of Owner, or other causes not the fault of and beyond control of Owner and Contractor, then Contractor shall be entitled to an equitable adjustment in Contract Times, if such adjustment is essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays described in this Paragraph 12.03.C.

D. Owner, Engineer and the Related Entities of each of them shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of Engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

E. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delays within the control of Contractor. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.

F. For unreasonable delays caused by right-of-way required to construct the work; utilities not moved according to the contract; other related contracts impacting the controlling operation; payment may be allowed for idled equipment. The equipment must be on the site at the time of the delay. The rental rate for idled equipment will be one-half of the rate established in 11.01.A.5.c and no payment for operating costs will be allowed.

ARTICLE 13 - TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.01 *Notice of Defects*

A. Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor. All defective Work may be rejected, corrected, or accepted as provided in this Article 13.

13.02 *Access to Work*

A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and governmental agencies with jurisdictional interests will have access to the Site and the Work at reasonable times for their observation, inspecting, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's Site safety procedures and programs so that they may comply therewith as applicable.

13.03 *Tests and Inspections*

A. Contractor shall give Engineer timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.

B. Owner shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:

1. for inspections, tests, or approvals covered by Paragraphs 13.03.C and 13.03.D below;

2. that costs incurred in connection with tests or inspections conducted pursuant to Paragraph 13.04.B shall be paid as provided in said Paragraph 13.04.C; and

3. as otherwise specifically provided in the Contract Documents.

C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.

D. Contractor shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to Owner and Engineer.

E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, it must, if requested by Engineer, be uncovered for observation.

F. Uncovering Work as provided in Paragraph 13.03.E shall be at Contractor's expense unless Contractor has given Engineer timely notice of Contractor's intention to cover the same and Engineer has not acted with reasonable promptness in response to such notice.

13.04 *Uncovering Work*

A. If any Work is covered contrary to the written request of Engineer, it must, if requested by Engineer, be uncovered for Engineer's observation and replaced at Contractor's expense.

B. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment.

C. If it is found that the uncovered Work is defective, Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05.

D. If, the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, Contractor may make a Claim therefore as provided in Paragraph 10.05.

13.05 *Owner May Stop the Work*

A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

13.06 *Correction or Removal of Defective Work*

A. Promptly after receipt of notice, Contractor shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by Engineer, remove it from the Project and replace it with Work that is not defective. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).

B. When correcting defective Work under the terms of this Paragraph 13.06 or Paragraph 13.07, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

13.07 *Correction Period*

A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents) or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for Contractor's use by Owner or permitted by Laws and Regulations as contemplated in Paragraph 6.11.A is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:

1. repair such defective land or areas; or

2. correct such defective Work; or

3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and

4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom.

B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by Contractor.

C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications .

D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this Paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

E. Contractor's obligations under this Paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this Paragraph 13.07 shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitation or repose.

13.08 *Acceptance of Defective Work*

A. If, instead of requiring correction or removal and replacement of defective Work, Owner (and, prior to Engineer's recommendation of final payment, Engineer) prefers to accept it, Owner may do so. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness) and the diminished value of the Work to the extent not otherwise paid by Contractor pursuant to this sentence. If any such acceptance occurs prior to Engineer's recommendation of final payment, a Change

Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and Owner shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefore as provided in Paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by Contractor to Owner.

13.09 *Owner May Correct Defective Work*

A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work or to remove and replace rejected Work as required by Engineer in accordance with Paragraph 13.06.A, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, Owner may, after seven days written notice to Contractor, correct or remedy any such deficiency.

B. In exercising the rights and remedies under this Paragraph 13.09, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, take possession of Contractor's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this Paragraph.

C. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 13.09 will be charged against Contractor, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, Owner may make a Claim therefor as provided in Paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.

D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 13.09.

ARTICLE 14 - PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 *Schedule of Values*

A. The Schedule of Values established as provided in Paragraph 2.07.A will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed.

14.02 *Progress Payments*

A. Applications for Payments

1. At least 10 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.

2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.

B. *Review of Applications*

1. Engineer will, within 10 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to Owner or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.

2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations on the Site of the executed Work as an experienced and qualified design professional and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:

a. the Work has progressed to the point indicated;

b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, to the results of any subsequent tests called for in the Contract Documents, to a final determination of quantities and classifications for Unit Price Work under Paragraph 9.07, and to any other qualifications stated in the recommendation); and

c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.

3. By recommending any such payment Engineer will not thereby be deemed to have represented that:

a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract Documents; or

b. that there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.

4. Neither Engineer's review of Contractor's Work for the purpose of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:

a. to supervise, direct, or control the Work, or

b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or

c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or

d. to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or

e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.

5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 14.02.B.2. Engineer may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in Engineer's opinion to protect Owner from loss because:

a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;

b. the Contract Price has been reduced by Change Orders;

c. Owner has been required to correct defective Work or complete Work in accordance with Paragraph 13.09; or

d. Engineer has actual knowledge of the occurrence of any of the events enumerated in Paragraph 15.02.A.

C. *Payment Becomes Due*

1. Twenty days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended will (subject to the provisions of Paragraph 14.02.D) become due, and when due will be paid by Owner to Contractor.

D. *Reduction in Payment*

1. Owner may refuse to make payment of the full amount recommended by Engineer because:

a. claims have been made against Owner on account of Contractor's performance or furnishing of the Work;

b. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;

c. there are other items entitling Owner to a set-off against the amount recommended; or

d. Owner has actual knowledge of the occurrence of any of the events enumerated in Paragraphs 14.02.B.5.a through 14.02.B.5.c or Paragraph 15.02.A.

2. If Owner refuses to make payment of the full amount recommended by Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, when Contractor corrects to Owner's satisfaction the reasons for such action.

3. If it is subsequently determined that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 14.02.C.1.

14.03 *Contractor's Warranty of Title*

A. Contractor warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to Owner no later than the time of payment free and clear of all Liens.

14.04 *Substantial Completion*

A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete (except for items specifically listed by Contractor as incomplete) and request that Engineer issue a certificate of Substantial Completion.

B. Promptly after Contractor's notification, , Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefore.

C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the tentative certificate during which to make written objection to Engineer as to any provisions of the certificate or attached list. If, after considering such objections, Engineer concludes that the Work is not substantially complete, Engineer will within 14 days after submission of the tentative certificate to Owner notify Contractor in writing, stating the reasons therefore. If, after consideration of Owner's objections, Engineer considers the Work substantially complete, Engineer will within said 14 days execute and deliver to Owner and Contractor a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as Engineer believes justified after consideration of any objections from Owner.

D. At the time of delivery of the tentative certificate of Substantial Completion, Engineer will deliver to Owner and Contractor a written recommendation as to division of responsibilities pending final payment between Owner and Contractor with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless Owner and Contractor agree otherwise in writing and so inform Engineer in writing prior to Engineer's issuing the definitive certificate of Substantial Completion, Engineer's aforesaid recommendation will be binding on Owner and Contractor until final payment.

E. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to complete or correct items on the tentative list.

14.05 *Partial Utilization*

A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions.

1. Owner at any time may request Contractor in writing to permit Owner to use or occupy any such part of the Work which Owner believes to be ready for its intended use and substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor will certify to Owner and Engineer that such part of the Work is substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.

2. Contractor at any time may notify Owner and Engineer in writing that Contractor considers any such part of the Work ready for its intended use and substan-

tially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.

3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefore. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

14.06 *Final Inspection*

A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

14.07 *Final Payment*

A. Application for Payment

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance certificates of inspection, marked-up and/or supporting documentation as provided in Paragraph 6.12, (or as otherwise requested by Engineer) to allow Engineer to prepare Record Plans, and other documents, Contractor may make application for final payment following the procedure for progress payments.

2. The final Application for Payment shall be accompanied (except as previously delivered) by:

a. all documentation called for in the Contract Documents, including, but not limited to, the evidence of insurance required by Paragraph 5.04.B.8;

b. consent of the surety, if any, to final payment;

c. a list of all Claims against Owner that Contractor believes are unsettled; and

d. complete and legally effective releases or waivers in a form satisfactory to Owner of all claims, including but limited to, Lien rights arising out of or Liens filed in connection with the Work.

3. In lieu of the releases or waivers specified in Paragraph 14.07.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (i) the releases and receipts include all labor, services, material, and equipment for which a Claim could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner or Owner's property might in any way be responsible have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien or Claim.

B. *Engineer's Review of Application and Acceptance*

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract Documents have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of payment and present the Application for Payment to Owner for payment. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable subject to the provisions of Paragraph 14.09. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

C. Payment Becomes Due

1. Thirty days after the presentation to Owner of the Application for Payment and accompanying documentation, the amount recommended by Engineer, less any sum Owner is entitled to set off against Engineer's recommendation, including but not limited to liquidated damages, will become due and , will be paid by Owner to Contractor.

14.08 *Final Completion Delayed*

A. If, through no fault of Contractor, final completion of the Work is significantly delayed, and if Engineer so confirms, Owner shall, upon receipt of

Contractor's final Application for Payment (for Work fully completed and accepted) and recommendation of Engineer, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by Owner for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if bonds have been furnished as required in Paragraph 5.01, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by Contractor to Engineer with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

14.09 *Waiver of Claims*

A. The making and acceptance of final payment will constitute:

1. a waiver of all Claims by Owner against Contractor, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 14.06, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from Contractor's continuing obligations under the Contract Documents; and

2. a waiver of all Claims by Contractor against Owner other than those previously made in accordance with the requirements herein and expressly acknowledged by Owner in writing as still unsettled.

ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION

15.01 *Owner May Suspend Work*

A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by notice in writing to Contractor and Engineer which will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be granted an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if Contractor makes a Claim therefor as provided in Paragraph 10.05.

15.02 *Owner May Terminate for Cause*

A. The occurrence of any one or more of the following events will justify termination for cause:

1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule established under Paragraph 2.07 as adjusted from time to time pursuant to Paragraph 6.04);

2. Contractor's disregard of Laws or Regulations of any public body having jurisdiction;

3. Contractor's disregard of the authority of Engineer; or

4. Contractor's violation in any substantial way of any provisions of the Contract Documents.

B. If one or more of the events identified in Paragraph 15.02.A occur, Owner may, after giving Contractor (and surety) seven days written notice of its intent to terminate the services of Contractor:

1. exclude Contractor from the Site, and take possession of the Work and of all Contractor's tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion),

2. incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and

3. complete the Work as Owner may deem expedient.

C. If Owner proceeds as provided in Paragraph 15.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Owner arising out of or relating to completing the Work, such excess will be paid to Contractor. If such claims, costs, losses, and damages exceed such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this Paragraph Owner shall not be required to obtain the lowest price for the Work performed.

D. Notwithstanding Paragraphs 15.02.B and 15.02.C, Contractor's services will not be terminated if Contractor begins within seven days of receipt of notice

of intent to terminate to correct its failure to perform and proceeds diligently to cure such failure within no more than 30 days of receipt of said notice.

E. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue. Any retention or payment of moneys due Contractor by Owner will not release Contractor from liability.

F. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 5.01.A, the termination procedures of that bond shall supersede the provisions of Paragraphs 15.02.B, and 15.02.C.

15.03 *Owner May Terminate For Convenience*

A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):

1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;

2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;

3. all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and

4. reasonable expenses directly attributable to termination.

B. Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

15.04 *Contractor May Stop Work or Terminate*

A. If, through no act or fault of Contractor, (i) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (ii) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (iii) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the Contract and recover from Owner payment on the same terms as provided in Paragraph 15.03.

B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this Paragraph 15.04 are not intended to preclude Contractor from making a Claim under Paragraph 10.05 for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this Paragraph.

ARTICLE 16 - DISPUTE RESOLUTION

16.01 Meet to Confer and Negotiate

A. Engineer's action under Paragraph 10.05.C or a denial pursuant to Paragraphs 10.05.C.3 or 10.05.D shall become final and binding 30 days after receipt of written notice of Engineer's action or decision unless, within that time period, Owner or Contractor gives to the other party written notice of intent to submit the Claim to a process of bilateral negotiations as set forth below.

B. Within 30 days of the delivery of such notice, Owner and Contractor shall meet and confer regarding the Claim. A good-faith effort to negotiate resolution shall be made by both parties.

C. If the negotiations contemplated by Paragraph 16.01.B are unsuccessful, management representatives of Owner and Contractor at least one tier above the individuals who met under 16.01.B shall meet, confer, and negotiate within 30 days of the closure of the unsuccessful negotiations.

D. If the Claim is not resolved by negotiation, Engineer's action under Paragraph 10.05.C or a denial pursuant to Paragraphs 10.05.C.3 or 10.05.D shall become final and binding 30 days after termination of the negotiations unless, within that time period, Owner or Contractor agrees with the other party to submit the Claim to another dispute resolution process.

ARTICLE 17 - MISCELLANEOUS

17.01 *Giving Notice*

A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:

1. delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or

2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

17.02 *Computation of Times*

A. When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

17.03 *Cumulative Remedies*

A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract Documents. The provisions of this Paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

17.04 *Survival of Obligations*

A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

17.05 *Controlling Law*

A. This Contract is to be governed by the law of the state in which the Project is located.

17.06 *Headings*

A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

SECTION 0800 – SUMMARY OF WORK

PART 1

1.1 GENERAL SITE INFORMATION

The subject property is located in the northwest ¼ of Section 24 in the City of Saginaw (T.12N. /R.4E.), Saginaw County, Michigan. The property is located at the southwest intersection of Johnson Street and Jefferson Avenue. It consists of a rectangular-shaped parcel that contains approximately 2.09 acres. The Saginaw County Building Authority (Authority) is the current owner of the subject property. The subject property's parcel identification number is 03-0280-00000.

A site survey prepared by William A. Kibble and Associates is included in Appendix A.

General information regarding the on-site building (the subject building) is presented in the following table:

Subject Building – 400 Johnson Street			
General Construction	**Interior Finish:**	**Approximate Square Ft.**	**Construction and Other Improvement Dates**
8-Story; flat roof; poured concrete and block frame, slab on grade, interior wood, concrete, and metal framing, miscellaneous aluminum, brick, wood, stucco finishes; swimming pool, three electrical cable-driven elevators, grade beams, drilled pier/caisson foundations, no basement;	Drywall, resilient floor tiles, ceramic tile, carpet, acoustical ceiling tiles, paint, wood, metal, glass, concrete etc.	Ground Floor – ~22,790 2nd – 8th - ~13,395 per floor	Constructed in 1979

Exterior portions of the property consist of paved parking areas, concrete walkways, curbing, and grassy/landscaped areas.

The subject property is unoccupied and contains numerous abandoned building contents, equipment, and interior finishes. The subject building structure is generally divided into lobby, administrative offices, laundry, mechanical/utility, restaurant, meeting rooms, pool, storage, and guest room areas.

One pad-mounted electrical transformer owned by Consumers Energy is located on the southeast exterior of the building. One cellular telephone tower owned by Sprint is mounted to the roof of the subject building. All demolition work must be coordinated with Consumers Energy, Sprint, and other utilities. Protect and coordinate removal of equipment and site features owned by utilities. At the time of this specification Authority and Engineer have begun coordination of the removal of select utilities. One natural-gas backup emergency power generator is located on the southeast exterior of the building.

1.2 DESCRIPTION OF WORK

GENERAL DESCRIPTION OF WORK

The Work covered by this section summarizes the Work for environmental abatement and disposal of asbestos and hazardous material, structure demolition, select site feature removal, and site restoration for the following AUTHORITY property in Saginaw County:

Former Plaza Hotel, 400 Johnson Street, Saginaw, Michigan, Parcel ID #03-0280-00000

The Saginaw County Building Authority's purpose is to demolish, remove and dispose of the subject building, debris, and select site features located at the subject property to prepare the site for construction of a municipal parking lot. The existing asphalt parking lot and storm water catch basins will remain. The asphalt parking lot does not need to be protected from damage. The storm water catch basins do need to be protected from damage. A site development and paving contractor will commence work at the subject property immediately following completion of this scope of work.

The scope of work for the project involves furnishing all labor, equipment, materials, services, and incidentals (necessary items not specifically mentioned) to demolish, remove and dispose of all specified building structures and foundations, pavement, site features, asbestos containing materials (ACM), hazardous materials, other building contents, and miscellaneous debris; terminating all utilities; and conducting site restoration. The proposed work/demolition area is shown on the attached maps and further described below.

SPECIFIC DESCRIPTION OF WORK

Refer to "Technical Specifications" and other Sections as referenced herein.

Contractor is responsible to coordinate his work with Engineer, Authority, other contractors on site, utilities, regulatory agencies, and other affected parties.

Specifically, the Contractor is responsible to provide all preparation work, ancillary supplies, appurtenances, and incidental work; all labor, materials and equipment in order to complete the following tasks according to these specifications, and in accordance with applicable regulations, codes, ordnances, and industry standards:

A. **Mobilization/Demobilization**

Provide all labor, materials, and equipment to deliver to the site all necessary personnel, equipment and supplies to complete the work of this contract. Provide site cleanup upon completion of work and provide all incidentals (services and items not specifically mentioned) necessary for completion of work. Specifically, the Mobilization/Demobilization item includes the following:

1. Provide all labor, materials, and equipment to deliver to the site all necessary personnel, equipment and supplies to complete the work of this contract. Removal of all materials and equipment and site cleanup immediately upon completion of contract.
2. Conduct a pre-demolition engineering survey by a competent person and prepare a project Work Plan for approval by Authority, Engineer, and affected units of government.
3. Preparation of a Site Specific Health and Safety Plan.
4. Provide all temporary power, utilities, water, lighting, and other services necessary to complete contract.

5. Provide all storage, staging, temporary office, restroom, and sanitation facilities.
6. This item includes site security, safety personnel, installation of safety and security fencing, and protection of public, existing utilities, public infrastructure, right-of-way, and adjacent properties. Repair of any existing utilities, public infrastructure, right-of-way, and adjacent properties are considered incidental to this contract.
7. Item includes all shipping costs including loading, hauling and delivering materials to the job site.
8. Provide soil erosion and sedimentation control, including preventing runoff of construction debris and dust to municipal storm water system.
9. Provide all dust controls during work.
10. Coordination of work with Engineer, City, County, and State, including compliance with ordinances, codes, and regulations. Also includes coordination of work with other contractors working at the site.
11. Attendance at all Project Meetings.
12. Providing all required documentation to Authority and Engineer. Submit copies of disposal records, demolition permits, other permit, backfill certifications, inspections, testing results, manifests, notice of violations, and other Work related documents to Engineer as necessary and upon conclusion of the work.
13. Obtain all permits, provide all notifications, and pay all associated fees.
14. Obtain all access agreements (special consideration should be given to adjacent property owners).
15. Provide all other incidental (services and items not specifically mentioned) items necessary to provide a satisfactory work product in compliance with all governing laws and approved by the Authority and Engineer.

B. **Hazardous Materials/Waste Disposal**

Provide all labor, equipment, materials, equipment and incidentals to conduct the environmental abatement and disposal of asbestos and hazardous materials. Hazardous materials/waste disposal work includes:

1. Removal and disposal of hazardous materials, other materials banned from landfill disposal, and asbestos containing materials identified in pre-demolition survey and encountered during completion of work. Building has been surveyed and inspected for the presence of asbestos and hazardous materials. Reference AKT Peerless' Hazardous Materials Identification Survey, included as Appendix B for an inventory and approximate quantity of site-specific materials.
2. Contractor shall use best methods to perform work. However, Engineer and Authority reserves right to review, inspect, and reject method proposed by contractor. Engineer and Authority also reserve right to stop work by Contractor at any time for any reason.
3. Engineer will provide oversight and asbestos air clearance sampling on behalf of Authority. Contractor may be required to provide asbestos air clearance sampling and documentation for work completed outside of normal business hours or during weekends, and should include costs associated with such work in Bid.

4. Contractor responsible for all necessary permits, licenses, waste characterization, coordination of waste profiles and manifests, submittal of all notices, notifications, and associated fees. Coordinate all work with Engineer.

C. **Structure Demolition**

Provide all labor, equipment, materials, equipment and incidentals to remove the subject building, designated site features, and associated debris in their entirety in accordance with the contract documents and other sections of the scope of work. Structure demolition work includes, but is not limited to:

1. Identify special conditions at the site that could impact demolition operations.
2. Removal of salvageable contents, equipment and site features. Unless otherwise specified, all contents, equipment, interior finishes, and recyclable material become property of Contractor. Authority encourages modern deconstruction methods, Authority encourages recycling of all salvageable site features.
3. Removal of water accumulated within elevator pit, swimming pool, spa, and other site features including, but not limited to boiler, heat, fire protection, and domestic water systems. Preliminary approval has been obtained from City of Saginaw Wastewater Treatment Plant. Coordinate water disposal with City and Engineer.
4. Cut and cap all on-site utilities. Unless otherwise approved terminate at inside of property boundary or main. Coordinate with utility companies and cut and cap utilities including sanitary sewer, water, natural gas, electricity, cable television, telephone, and select storm sewer. Coordinate and acquire all feed disconnects, and shutoffs with local utility company. Acquire and supply necessary utility clearances (gas, electric, water disconnect, storm and sanitary sewer). Ensure all utility meters and other equipment is removed.

   Pay all associated fees. Note: City of Saginaw water and sewer disconnect fee, as well as Consumers Energy gas and electric disconnect fee will be paid directly by Saginaw County. At time of specification, Authority and Engineer have already started utility disconnect process with Consumers Energy and City of Saginaw. Contractor must coordinate any remaining work to be done. Protect and coordinate removal of equipment and site features owned by utilities.

   Note: property developed since 1800s, historical utilities and subsurface features likely to be encountered.
5. Removal of subject building.
6. Removal of entire building slabs, grade beams, foundations and subsurface features. Based on information known at time of specification the piers/caissons are to remain (if located minimum of at least 4 feet below existing floor). If piers/caissons encountered remove to depth specified by Engineer approximately 4 feet below existing building floor. Site must be left in condition suitable for future development of an asphalt paved parking lot.

   Note: property developed since 1800s, historical foundations and subsurface features likely to be encountered.
7. Removal of concrete paving, private sidewalks, and private curbing.
8. Removal of site features including private light poles, private utility poles, flag poles, fencing, other features, and debris.

9. Removal of guard rail, guard rail posts, and foundations. Provide alternate for demolition of western guard rail posts as described below.
10. Removal of parking blocks, barricades, signage and foundations.
11. Grub vegetation from work areas.
12. Removal of vegetation, landscaping, and select private trees.
13. Site cleanup including removal of site debris trash.
14. Disconnect and remove exterior site features and foundations including lights, private light poles, electrical features, buried and aboveground wiring, and water features.
15. Existing storm water catch basins located within asphalt parking lots are to remain. Protection from damage is required.
16. Existing asphalt paved parking areas are to remain. Protection from damage is not required.
17. Contractor shall use best methods to perform work. However, Engineer and Authority reserves right to review, inspect, and reject method proposed by Contractor. Engineer and Authority also reserve right to stop work by Contractor at any time for any reason.

D. **Entrance Sign Abatement and Demolition**

Provide all labor, materials, equipment and incidentals necessary to conduct environmental abatement of hazardous materials, demolition and disposal of the entrance sign located on the northeast corner of the property in its entirety in accordance with the contract documents and other sections of the scope of work. Note: this work may be omitted from contract if Authority elects to keep sign. Work includes:

1. Removal and disposal of hazardous materials, other materials banned from landfill disposal, and asbestos containing materials identified in pre-demolition survey and encountered during completion of work.
2. Removal of entire sign, wiring, foundation, and subsurface features.
3. If Authority elects to keep sign, remove subsurface wiring along with other site demolition work. Leave 5 feet of wiring connected to sign for future service.

E. **North Jefferson Light Pole Demolition**

Provide all labor, materials, equipment and incidentals necessary to conduct environmental abatement of hazardous materials, demolition and disposal of the three light poles located on eastern property boundary along North Jefferson Avenue in their entirety in accordance with the contract documents and other sections of the scope of work. Note: this work may be omitted from contract if Authority elects to keep light poles. Work includes:

1. Removal and disposal of hazardous materials, other materials banned from landfill disposal, and asbestos containing materials identified in pre-demolition survey and encountered during completion of work.
2. Removal of entire light poles, wiring, foundation, and subsurface features.

F. **Western Guard Rail and Post Demolition**

Provide all labor, materials, equipment and incidentals necessary to conduct demolition and disposal of the guard rail and guard rail posts located on western and northwestern property boundary in their entirety in accordance with the contract documents and other sections of the scope of work. Note: this work may be omitted from contract if Authority elects to keep guard rail and posts. Work includes:

1. Removal of entire guard rail and guard rail posts, foundation, and subsurface features.

G. **Excavation**

Provide all labor, materials, equipment and incidentals necessary to excavate and dispose of designated soil from the subject property in accordance with the contract documents and other sections of the scope of work. Excavation work includes:

1. Removal of soil from lawn and landscaped areas to average depth of 1.5 feet below existing ground surface. Final volume and depth of backfill to be determined and approved by Engineer. Site must be left in condition suitable for future development of an asphalt paved parking lot.

   Note: property is contaminated, all excavated soil must be disposed of at Class II landfill; follow Contractor Disclosure Statement in Appendix C. Site specific Due Care Plan available from Engineer.

2. Composite waste characterization sample of soil has been completed. Refer to laboratory analytical results attached in Appendix D.
3. Provide waste profile and manifests to Engineer for review and approval.
4. Provide documentation including manifest and landfill receipts with weight in tons.

H. **Site Restoration**

Provide all labor, materials, equipment and incidentals necessary to backfill and compact soil excavations to grade specified by Engineer and in accordance with the contract documents and other sections of the scope of work. Site restoration work includes:

1. Backfill select voids caused by demolition and removal of below grade structures/site features (pool, spa, foundations, utilities, etc.) with MDOT Class II Sand. Backfill must be certified clean fill from a virgin source. Volume of backfill should replace displacement caused by subsurface feature removal. Final volume and depth of backfill to be determined and approved by Engineer. Site must be left in condition suitable for future development of an asphalt paved parking lot.
2. Provide compaction testing services and certification. Backfill shall be compacted to not less than 95% M.U.W. Engineer witness testing. Provide copies to Engineer.
3. Provide backfill documentation including clean certification and volume in cubic yards.

FIGURES

APPENDIX A

APPENDIX A

Site survey to be provided upon completion.

APPENDIX B

APPENDIX B

Summary tables of asbestos, other hazardous materials, and lead paint samples attached for bidding purposes.

Final Hazardous Materials Survey to be provided upon completion.

APPENDIX B

ASBESTOS SURVEY SUMMARY TABLE

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ASBESTOS SURVEY- HOMOGENEOUS AREA SUMMARY

CLIENT: Saginaw County Brownfield Redevelopment Authority

PROJECT NO: 7444s-3-18

PROJECT NAME: Former Plaza Hotel, 400 Johnson Street, Saginaw, MI

DRAFT

HA No.	Material Description	Location	Material Class	Approx. Quantity (SF)(LF)	Friability	Asbestos Present	Condition
1	White Textured Paint on Ceiling	All Guest Rooms and Hallways Floors 2nd-8th	SM	Not Estimated	F	No	Good
2	Drywall Tape and Mud	Throughout Building	MM	Not Estimated	NF	No	Good
3	Beige Sink Undercoating	Room 818	MM	2 SF	NF	No	Good
4	Yellow Carpet Glue in Rooms	Throughout Guest Rooms Floors 2-8	MM	Not Estimated	NF	No	Good
5	Yellow Carpet Glue in Hallways and Corridors	Throughout Hallways and Corridors Floors 1-8	MM	Not Estimated	NF	No	Good
6	White Caulk at Wood Trim Near Ceiling	Vending Areas, Room 818, Room 223	MM	Not Estimated	NF	No	Good
7	Brown Caulk at Wood Trim Near Ceiling	Vending Areas, Room 818, Room 223	MM	Not Estimated	NF	No	Good
8	Wernock Hersey Listed 20 Minute Fire Door WHI 608303	Every Guest Room	MM	192 Doors	NF	No	Good
9	White Window Caulk	Every Guest Room	MM	Not Estimated	NF	No	Good
10	**Fire Door 1.5 Hours (Assumed ACM)**	**Stairwells FS-56 and FS-57**	**MM**	**15 Doors**	**NF**	**Assumed ACM**	**Good**
11	12" x 12" Green Floor Tile with mastic	Room 323	MM	40 SF	NF	No	Good

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ASBESTOS SURVEY- HOMOGENEOUS AREA SUMMARY

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PROJECT NO: 7444s-3-18
PROJECT NAME: Former Plaza Hotel, 400 Johnson Street, Saginaw, MI

DRAFT

HA No.	Material Description	Location	Material Class	Approx. Quantity (SF)(LF)	Friability	Asbestos Present	Condition
12	2' x 2' White Ceiling Tile- textured with Pinholes	FS-2, FS-5, FS-65	MM	Not Estimated	NF	No	Good
13	Beige Caulk (rubbery) at wall and ceiling	FS-1, FS-3, FS-5	MM	Not Estimated	NF	No	Good
14	White Textured Paint on Ceiling	FS-3 Pool Area	SM	Not Estimated	F	No	Good
15	2' x 4' White Ceiling Tile with elongated grooves and pinholes	FS-50, FS-51	MM	Not Estimated	NF	No	Good
16	**Electrical Panels (Assumed Internal Components)**	**FS-7, FS-19, FS-21, FS-31, FS-38, FS-58, FS-68**	**MM**	**40 Panels**	**NF**	**Assumed ACM**	**Good**
17	Thermal Tank Insulation	FS-58 Utility Room	TSI	200 SF	F	No	Damaged
18	Thermal Mud Pipe Fitting Insulation	FS-58 Utility Room	TSI	10 Fittings	F	No	Damaged
19	Thick White Spray-on (Hard)	FS-53	SM	2,800 SF	F	No	Good
20	Roofing Material	1st Floor Roof	MM	10,200 SF	NF	No	Good
21	**Transformers (Assumed Internal Components)**	**FS-58, FS-59, FS-67**	**MM**	**8 Transformers**	**NF**	**Assumed ACM**	**Good**
22	Brown Glue on Room Signs and Mirrors in Bar	All Guest Rooms and Direction Signs and FS-34	MM	Not Estimated	NF	No	Good

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PROJECT NO: 7444s-3-18
PROJECT NAME: Former Plaza Hotel, 400 Johnson Street, Saginaw, MI

DRAFT

HA No.	Material Description	Location	Material Class	Approx. Quantity (SF)(LF)	Friability	Asbestos Present	Condition
23	Duct Insulation Black/ Gray with Caulk	FS-66 1st Floor Roof	MM	Not Estimated	NF	No	Good
24	8th Floor Roofing Material	FS-67 8th Floor Roof	MM	11,200 SF	NF	No	Good
25	Drywall 2nd Layer Pipe Chase	Throughout pipe chases Floors 2-8	MM	Not Estimated	NF	No	Good
26	Drywall 3rd Layer Pipe Chase	Throughout pipe chases Floors 2-8	MM	Not Estimated	NF	No	Good
27	Drywall 4th Layer Pipe Chase	Throughout pipe chases Floors 2-8	MM	Not Estimated	NF	No	Good
28	Thermal Mud Pipe Fitting Insulation	Throughout pipe chases Floors 1-8 and above ceilings on floor 1	TSI	1,700 Fittings	F	No	Damaged
29	Skim Coat on Walls and Pipes	Throughout pipe chases Floors 2-8	MM	Not Estimated	NF	No	Damaged
30	2' x 4' White Ceiling Tile- Textured	FS-14, FS-15	MM	Not Estimated	NF	No	Good
31	Roof Drain Fittings/ Hanger Insulation	FS-3, FS-16, FS-17	TSI	10 Fittings	F	No	Damaged
32	Green Blend Formica and Glue	FS-60	MM	Not Estimated	NF	No	Good
33	4" Black Baseboard with Glue	FS-16, FS-17, FS-18	MM	Not Estimated	NF	No	Good

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ASBESTOS SURVEY- HOMOGENEOUS AREA SUMMARY

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PROJECT NO: 7444s-3-18
PROJECT NAME: Former Plaza Hotel, 400 Johnson Street, Saginaw, MI

DRAFT

HA No.	Material Description	Location	Material Class	Approx. Quantity (SF)(LF)	Friability	Asbestos Present	Condition
34	Exterior Column Material- Brown with Netting	FS-63 Exterior	MM	Not Estimated	NF	No	Good
35	Quality Control Sample of HA-12	QC	MM	Not Estimated	NF	No	Good
36	Quality Control Sample of HA-15	QC	MM	Not Estimated	NF	No	Good
37	White Caulk around Vents	FS-63 Exterior	MM	Not Estimated	NF	No	Good
38	Brown Caulk around Windows	FS-63 Exterior	MM	Not Estimated	NF	No	Good
39	2' x 4' Ceiling Tile- Solid	FS-38, FS-39, FS-41, FS-42, FS-45, FS-46, FS-47, FS-48	MM	Not Estimated	NF	No	Good
40	12" x 12" White Blend Floor Tile with Mastic	FS-47	MM	Not Estimated	NF	No	Good
41	12' x 12" Grey Smokey Blend Floor Tile with Mastic	FS-45, FS-46	MM	Not Estimated	NF	No	Good
42	Orange/Yellow Foam	FS-54, FS-55	MM	Not Estimated	NF	No	Good
43	Brown Glue on Wood	FS-61	MM	Not Estimated	NF	No	Good
44	Brown/White Skim Coat at Ceiling around Pipes	FS-16, FS-17, FS-34, FS-35	MM	Not Estimated	NF	No	Good

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ASBESTOS SURVEY- HOMOGENEOUS AREA SUMMARY

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PROJECT NO: 7444s-3-18

PROJECT NAME: Former Plaza Hotel, 400 Johnson Street, Saginaw, MI

DRAFT

HA No.	Material Description	Location	Material Class	Approx. Quantity (SF)(LF)	Friability	Asbestos Present	Condition
45	Wall Material Brown/White with Netting and Styrofoam	FS-63 Exterior	MM	Not Estimated	NF	No	Good
46	Rubber Seals Between HA-45	FS-63 Exterior	MM	Not Estimated	NF	No	Good
47	**Boiler Unit (Assumed Internal Components)**	**FS-58 Utility Room**	**MM**	**1 Unit**	**NF**	**Assumed ACM**	**Fair**

Notes

HA= Homogeneous Area

FS = Functional Space

SF= square feet

NF= Non-friable

MM = Miscellaneous Material

SM = Surfacing Material

LF = Linear Feet

Asbestos Containing Material (ACM) is in bold

TSI = Thermal System Insulation

F = Friable

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FUNCTIONAL SPACE LISTING

CLIENT: Saginaw County Brownfield Redevelopment Authority

PROJECT NO: 7444s-3-18

PROJECT NAME: Former Plaza Hotel, 400 Johnson Street, Saginaw, MI

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Functional Space No.	Description	Floor
1	Vestibule 3	1st
2	Corridor	1st
3	Pool	1st
4	Fitness Room	1st
5	Lobby	1st
6	Business Center	1st
7	Front Desk	1st
8	Office	1st
9	Night Auditor/ Bookkeeper	1st
10	Food and Beverage Office	1st
11	Office	1st
12	Sales and Catering Office	1st
13	General Manager	1st
14	Storage Room	1st
15	Corridor	1st
16	Laundry	1st
17	Laundry/ Dryer Room	1st
18	East Door Entranceway	1st
19	Laundry Storage	1st
20	Laundry Storage	1st
21	Trash	1st
22	Storage	1st
23	Pool Equipment	1st
24	Laundry Office	1st

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FUNCTIONAL SPACE LISTING

CLIENT: Saginaw County Brownfield Redevelopment Authority

PROJECT NO: 7444s-3-18

PROJECT NAME: Former Plaza Hotel, 400 Johnson Street, Saginaw, MI

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Functional Space No.	Description	Floor
25	Men's Restroom	1st
26	Women's Restroom	1st
27	Sauna	1st
28	Pool Storage	1st
29	Corridor	1st
30	Women's Restroom	1st
31	Coats	1st
32	Men's Restroom	1st
33	Bar/ Restaurant Entranceway	1st
34	Bar Area	1st
35	Restaurant Area	1st
36	West Entranceway/ Exit	1st
37	Waitress Station	1st
38	Kitchen- Northern Area	1st
39	Kitchen- Southern Area	1st
40	Janitor's Closet and Chemical Storage	1st
41	Employee's Restroom	1st
42	Employee's Lounge	1st
43	Walk-in Coolers	1st
44	Walk-In Freezer	1st
45	Kitchen Storage	1st
46	Kitchen Storage 2	1st
47	Kitchen Storage 3	1st
48	South Kitchen Vestibule	1st

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FUNCTIONAL SPACE LISTING

CLIENT: Saginaw County Brownfield Redevelopment Authority

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PROJECT NAME: Former Plaza Hotel, 400 Johnson Street, Saginaw, MI

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Functional Space No.	Description	Floor
49	Vestibule 1	1st
50	Meeting Room D	1st
51	Meeting Room E	1st
52	Closet/ Storage	1st
53	Meeting Rooms A, B, and C	1st
54	East Storage Room in Addition	1st
55	West Storage Room in Addition	1st
56	West Stairway	1st-8th
57	East Stairway	1st-8th
58	Utility Room	1st
59	Emergency Generator	1st
60	Elevators	1st-8th
61	Vestibule 2	1st
62	Front Canopy	Exterior
63	Exterior	Exterior
64	Corridor	1st
65	Hallway	1st
66	1st Floor Roof	Roof
67	8th Floor Roof	Roof
68	Penthouse	Roof
69	2nd Floor North-South Hallway	2nd
70	2nd Floor East-West Hallway	2nd
71	3rd Floor North-South Hallway	3rd
72	3rd Floor East-West Hallway	3rd

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FUNCTIONAL SPACE LISTING

CLIENT: Saginaw County Brownfield Redevelopment Authority

PROJECT NO: 7444s-3-18

PROJECT NAME: Former Plaza Hotel, 400 Johnson Street, Saginaw, MI

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Functional Space No.	Description	Floor
73	4th Floor North-South Hallway	4th
74	4th Floor East-West Hallway	4th
75	5th Floor North-South Hallway	5th
76	5th Floor East-West Hallway	5th
77	6th Floor North-South Hallway	6th
78	6th Floor East-West Hallway	6th
79	7th Floor North-South Hallway	7th
80	7th Floor East-West Hallway	7th
81	8th Floor North-South Hallway	8th
82	8th Floor East-West Hallway	8th
83	2nd Floor Vending Area	2nd
84	2nd Floor Saginaw Room	2nd
85	Room 202	2nd
86	2nd Floor Rooms	2nd
87	3rd Floor Vending Area	3rd
88	3rd Floor Rooms	3rd
89	4th Floor Vending Area	4th
90	4th Floor Rooms	4th
91	5th Floor Vending Area	5th
92	5th Floor Rooms	5th
93	6th Floor Vending Area	6th
94	6th Floor Rooms	6th
95	7th Floor Vending Area	7th
96	7th Floor Rooms	7th

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FUNCTIONAL SPACE LISTING

CLIENT: Saginaw County Brownfield Redevelopment Authority

PROJECT NO: 7444s-3-18

PROJECT NAME: Former Plaza Hotel, 400 Johnson Street, Saginaw, MI

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Functional Space No.	Description	Floor
97	8th Floor Vending Area	8th
98	8th Floor Rooms	8th

Notes

NA= Not Applicable

APPENDIX B

OTHER HAZARDOUS MATERIALS SUMMARY TABLE

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PRE-DEMOLITION HAZARDOUS MATERIAL/ SPECIAL WASTE SURVEY

Client:	Saginaw County Brownfield Redevelopment Authority
Site Name:	Former Plaza Hotel
Site Address:	400 Johnson Street, Saginaw, MI
AKT Project No.:	7444s-3-18
Survey Date:	May 12, 2012

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Bldg. Level	Func. Space No.	Func. Space Name	Approximate Number	Description/ Comments
Exterior	FS-63	Exterior Along North Jefferson	3	High Pressured Lamps- City Owned Light Poles
Exterior	FS-63	Exterior South Side Near Vestibule 3 Entrance	2	Mercury Vapor/ High Pressure Lamps
Exterior	FS-63	Exterior East Side	1	CFL Near Utility Room Door
Exterior	FS-63	Exterior North Side on Sign	8	4' Fluorescent bulbs
Exterior	FS-63	Exterior North Side on Sign	8	Ballasts
Exterior	FS-63	Exterior North Side on Sign	8	8' Fluorescent bulbs
Exterior	FS-63	Exterior North Side	20	Mercury Vapor Lights
Exterior	FS-63	Exterior- West Side	2	Compact Fluorescent Lights
Exterior	FS-63	Exterior- West Side	6	8' Fluorescent bulbs
Exterior	FS-63	Exterior- West Side	3	Ballasts
L1	FS-1	Vestibule 3	2	4' Fluorescent bulbs
L1	FS-1	Vestibule 3	1	Ballast
L1	FS-2	Corridor	14	2' Fluorescent bulbs- U-Shaped
L1	FS-2	Corridor	7	Ballasts
L1	FS-2	Corridor	6	Compact Fluorescent Lights
L1	FS-2	Corridor	2	Smoke Detectors- Possible Radiation
L1	FS-3	Pool Area	4	Mercury Vapor/ High Pressure Lamps
L1	FS-3	Pool Area	4	Smoke Detectors- Possible Radiation
L1	FS-3	Pool Area	1	Mercury Thermostat
L1	FS-4	Fitness Center	12	2' Fluorescent bulbs- U-Shaped
L1	FS-4	Fitness Center	6	Ballasts
L1	FS-4	Fitness Center	2	Mercury Thermostats
L1	FS-4	Fitness Center	1	Television- Miscellaneous Electronics
L1	FS-5	Lobby	4	4' Fluorescent bulbs
L1	FS-5	Lobby	2	Ballasts
L1	FS-5	Lobby	50	Compact Fluorescent Lights
L1	FS-5	Lobby	3	Smoke Detectors- Possible Radiation
L1	FS-5	Lobby	1	Small Refrigerator- CFC's
L1	FS-5	Lobby	1	Mercury Thermostat

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PRE-DEMOLITION HAZARDOUS MATERIAL/ SPECIAL WASTE SURVEY

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Bldg. Level	Func. Space No.	Func. Space Name	Approximate Number	Description/ Comments
L1	FS-5	Lobby	1	Aerosol 77 Multi-adhesive 16.75 Ounce
L1	FS-5	Lobby	1	Aerosol Can Spring Snow 18 Ounce
L1	FS-5	Lobby	6	2' Fluorescent bulbs- U-Shaped
L1	FS-5	Lobby	3	Ballasts
L1	FS-6	Business Center	4	2' Fluorescent bulbs- U-Shaped
L1	FS-6	Business Center	2	Ballasts
L1	FS-6	Business Center	3	Compact Fluorescent Lights
L1	FS-7	Front Desk	2	Video Monitors
L1	FS-7	Front Desk	2	12 Volt Batteries
L1	FS-7	Front Desk	1	Aerosol- 15 Ounce Insecticide
L1	FS-7	Front Desk	20	4' fluorescent bulbs
L1	FS-7	Front Desk	10	Ballasts
L1	FS-7	Front Desk	1	Smoke Detector- Possible Radiation
L1	FS-7	Front Desk	2	Assumed Batteries in Security Light (Power was on, these were not opened)
L1	FS-8	Office	24	4' Fluorescent bulbs
L1	FS-8	Office	12	Ballasts
L1	FS-8	Office	1	Smoke Detector- Possible Radiation
L1	FS-9	Night Auditor/ Bookkeeper Office	8	4' Fluorescent bulbs
L1	FS-9	Night Auditor/ Bookkeeper Office	4	Ballasts
L1	FS-9	Night Auditor/ Bookkeeper Office	40	Electronic Equipment
L1	FS-10	Food and Beverage Office	8	4' Fluorescent bulbs
L1	FS-10	Food and Beverage Office	4	Ballasts
L1	FS-11	Office	8	4' Fluorescent bulbs
L1	FS-11	Office	4	Ballasts
L1	FS-12	Sales and Catering Office	8	4' Fluorescent bulbs
L1	FS-12	Sales and Catering Office	4	Ballasts
L1	FS-12	Sales and Catering Office	1	Video Monitor
L1	FS-12	Sales and Catering Office	1	Compact Fluorescent Lights
L1	FS-13	General Manager Office	1	Smoke Detector- Possible Radiation
L1	FS-13	General Manager Office	1	Aerosol- Fabreze 27 Ounce
L1	FS-13	General Manager Office	16	4' Fluorescent bulbs

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PRE-DEMOLITION HAZARDOUS MATERIAL/ SPECIAL WASTE SURVEY

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Bldg. Level	Func. Space No.	Func. Space Name	Approximate Number	Description/ Comments
L1	FS-13	General Manager Office	8	Ballasts
L1	FS-14	Storage Room	8	4' Fluorescent bulbs
L1	FS-14	Storage Room	4	Ballasts
L1	FS-15	Corridor	8	4' Fluorescent bulbs
L1	FS-15	Corridor	4	Ballasts
L1	FS-15	Corridor	1	Smoke Detector- Possible Radiation
L1	FS-16	Laundry	4	2.5 Gallon Containers 50% Full- Cleaners
L1	FS-16	Laundry	1	Liquid Fabric Softener 5 Gallon Size 90% Full
L1	FS-16	Laundry	2	Liquid Laundry Detergent 5 Gallon Size one is Full, the other is 20% Full
L1	FS-16	Laundry	1	9 Pound Solid Powder Dish Detergent
L1	FS-16	Laundry	2	Assumed Batteries in Security Light (Power was on, these were not
L1	FS-16	Laundry	4	24 Ounce Bottles Stain Blaster- Various Amounts
L1	FS-16	Laundry	4	Orange pot and pan cleaner 5 pound containters
L1	FS-17	Laundry/ Dryer Room	-	No Hazardous Materials Observed
L1	FS-18	East Door Entranceway	5	4' Fluorescent bulbs
L1	FS-18	East Door Entranceway	2	Ballasts
L1	FS-18	East Door Entranceway	2	50 Pound bags of weed killer,1 full, 1 50% Full
L1	FS-18	East Door Entranceway	2	Video Monitors- Miscellaneous Electronics
L1	FS-18	East Door Entranceway	3	5-Gallon Pebbletex Finish
L1	FS-18	East Door Entranceway	1	Oil Compressor
L1	FS-19	Laundry Storage	1	Drinking Fountain- CFC's
L1	FS-19	Laundry Storage	7	4' Fluorescent bulbs
L1	FS-20	Laundry Storage	2	Fluorescent bulbs small (6")
L1	FS-20	Laundry Storage	1	Window Air Conditioner- CFC's
L1	FS-21	Trash	3	Quart Size Marking Paints
L1	FS-21	Trash	1	6 Ounce Size Biozyme
L1	FS-21	Trash	1	14.1 Ounce Propane

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Bldg. Level	Func. Space No.	Func. Space Name	Approximate Number	Description/ Comments
L1	FS-21	Trash	1	WD-40 10% Full
L1	FS-21	Trash	1	1/2 Pint Pipe Thread Sealer
L1	FS-21	Trash	1	Aersol can of Starch
L1	FS-21	Trash	50	Various Chemicals, caulks, cleaners, adhesives in black cabinet of various amounts
L1	FS-21	Trash	1	Tube of epoxy glue
L1	FS-21	Trash	1	Aerosol can of Spray Adhesive
L1	FS-21	Trash	20	Loose Fluorescent bulbs of various sizes
L1	FS-21	Trash	1	1 Gallon of Transchem Muriatic Acid
L1	FS-21	Trash	1	1 Gallon of antifreeze
L1	FS-21	Trash	2	6 Volt Batteries
L1	FS-21	Trash	1	1 Gallon Weed-b-gone
L1	FS-21	Trash	8	4' Fluorescent bulbs
L1	FS-21	Trash	4	Ballasts
L1	FS-22	Storage	4	4' Fluorescent bulbs
L1	FS-22	Storage	2	Ballasts
L1	FS-22	Storage	20	1 Gallon Size Paint and Stain Cans- Various Amounts
L1	FS-22	Storage	25	Aerosol Cans of Spray Enamel
L1	FS-22	Storage	1	Floc and Clear Settling Agent for Pools 32 Ounce 50% Full
L1	FS-22	Storage	1	Spa Defoamer
L1	FS-22	Storage	1	Drain Opener
L1	FS-22	Storage	20	1 Gallon Size or less of Various Pool Cleaners- Various Amounts
L1	FS-23	Pool Equipment	2	4' Fluorescent bulbs
L1	FS-23	Pool Equipment	1	Ballast
L1	FS-23	Pool Equipment	1	Oil Filled Machinery- Motor
L1	FS-24	Laundry Office	2	4' Fluorescent bulbs
L1	FS-24	Laundry Office	1	Ballast
L1	FS-24	Laundry Office	1	Aerosol Can of Spray Starch 20 Ounce Size 100% Full
L1	FS-24	Laundry Office	1	32 Ounce Carpet Stain Remover, 50% Full

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Bldg. Level	Func. Space No.	Func. Space Name	Approximate Number	Description/ Comments
L1	FS-24	Laundry Office	1	Betco Drain Unclogger 1 Quart, 20% Full
L1	FS-24	Laundry Office	1	28 Ounce Container of Ajax Bleach in powder form
L1	FS-24	Laundry Office	3	Red Containers of Infectious Waste (Bio-hazard), 1 is full, the other 2 are empty
L1	FS-24	Laundry Office	4	24 Ounce Bottles of Stain Blaster
L1	FS-25	Men's Restroom	4	4' Fluorescent bulbs
L1	FS-25	Men's Restroom	2	Ballasts
L1	FS-25	Men's Restroom	1	Compact Fluorescent Light
L1	FS-26	Women's Restroom	4	4' Fluorescent bulbs
L1	FS-26	Women's Restroom	2	Ballasts
L1	FS-26	Women's Restroom	1	Compact Fluorescent Light
L1	FS-27	Sauna	-	No Hazmat Observed
L1	FS-28	Pool Storage	5	Miscellaneous Computer Equipment (Monitors, CPU's, etc….)
L1	FS-28	Pool Storage	8	4' Fluorescent bulbs
L1	FS-28	Pool Storage	4	Ballasts
L1	FS-28	Pool Storage	1	2 Ounce Sure Grip Adhesive
L1	FS-28	Pool Storage	1	1 Tube sealant caulk
L1	FS-28	Pool Storage	2	4' Fluorescent bulbs- Loose
L1	FS-29	Corridor	1	Pay Phone- Miscellaneous Electronics
L1	FS-29	Corridor	1	Drinking Fountain- CFC's
L1	FS-29	Corridor	3	Compact Fluorescent Lights
L1	FS-29	Corridor	1	Smoke Detector- Possible Radiation
L1	FS-30	Women's Restroom	8	4' Fluorescent bulbs
L1	FS-30	Women's Restroom	6	Ballasts
L1	FS-30	Women's Restroom	4	3' Fluorescent bulbs
L1	FS-30	Women's Restroom	1	32 Ounce Bathroom Cleaner Liquid 30% Full
L1	FS-31	Coats	1	32 Ounce Paint Thinner 20% Full
L1	FS-31	Coats	4	4' Fluorescent bulbs

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Bldg. Level	Func. Space No.	Func. Space Name	Approximate Number	Description/ Comments
L1	FS-31	Coats	2	Ballasts
L1	FS-31	Coats	1	40 Ounce Weed Killer 10% Full
L1	FS-32	Men's Restroom	8	4' Fluorescent bulbs
L1	FS-32	Men's Restroom	6	Ballasts
L1	FS-32	Men's Restroom	4	3' Fluorescent bulbs
L1	FS-32	Men's Restroom	1	Smoke Detector- Possible Radiation
L1	FS-33	Bar/ Restaurant Entranceway	2	18" Fluorescent bulbs
L1	FS-33	Bar/ Restaurant Entranceway	1	Ballast
L1	FS-33	Bar/ Restaurant Entranceway	8	Compact Fluorescent Lights
L1	FS-33	Bar/ Restaurant Entranceway	1	Smoke Detector- Possible Radiation
L1	FS-33	Bar/ Restaurant Entranceway	1	32 Ounce Glass Cleaner 10% Full
L1	FS-34	Bar Area	2	Televisions- Misc. Electronics
L1	FS-34	Bar Area	2	Assumed Batteries in Security Light (Power was on, these were not opened)
L1	FS-34	Bar Area	1	Mercury Thermostat
L1	FS-34	Bar Area	20	Compact Fluorescent Lights
L1	FS-34	Bar Area	2	Spreaders with Residual Melting Salt
L1	FS-34	Bar Area	8	4' Fluorescent bulbs
L1	FS-34	Bar Area	7	Ballasts
L1	FS-34	Bar Area	1	18" Fluorescent bulb
L1	FS-34	Bar Area	1	Cooler behind Bar- CFC
L1	FS-35	Restaurant Area	1	Ice Maker- CFC
L1	FS-35	Restaurant Area	1	16 Ounce Metal Cleaner, 80% Full
L1	FS-35	Restaurant Area	6	Smoke Detectors- Possible Radiation
L1	FS-35	Restaurant Area	36	Compact Fluorescent Lights
L1	FS-35	Restaurant Area	1	Fire Extinguisher
L1	FS-35	Restaurant Area	1	Mercury Thermostat
L1	FS-36	West Entranceway/ Exit	1	Compact Fluorescent Light
L1	FS-37	Waitress Station	2	Compact Fluorescent Lights
L1	FS-38	Kitchen- Northern Area	36	4' Fluorescent bulbs
L1	FS-38	Kitchen- Northern Area	18	Ballasts
L1	FS-38	Kitchen- Northern Area	1	Halogen Portable Light

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Bldg. Level	Func. Space No.	Func. Space Name	Approximate Number	Description/ Comments
L1	FS-38	Kitchen- Northern Area	1	5-Gallon Liquid Sanitizer
L1	FS-38	Kitchen- Northern Area	1	5-Gallon Rinse Dry II
L1	FS-38	Kitchen- Northern Area	1	32 Ounce Glass Cleaner 10% Full
L1	FS-38	Kitchen- Northern Area	1	4.1 kg Solid Power Dishwasher Detergent
L1	FS-38	Kitchen- Northern Area	1	Microwave- misc. electronics
L1	FS-39	Kitchen- Southern Area	32	4' Fluorescent bulbs
L1	FS-39	Kitchen- Southern Area	16	Ballasts
L1	FS-39	Kitchen- Southern Area	2	Pro Chem Fire Protection Tanks
L1	FS-40	Janitor's Closet and Chemical Storage	12	2.5 Gallon Containers of Cleaners Various Amounts
L1	FS-40	Janitor's Closet and Chemical Storage	1	48 Ounce Oxy Multi-purpose Cleaner, 40% Full
L1	FS-40	Janitor's Closet and Chemical Storage	1	Aerosol- 11 Ounce Ace Spray Lube
L1	FS-40	Janitor's Closet and Chemical Storage	1	Compact Fluorescent Light
L1	FS-40	Janitor's Closet and Chemical Storage	1	3 Ounce Container of 3 in 1 Oil
L1	FS-40	Janitor's Closet and Chemical Storage	1	4 Pound of Presoak Detergent
L1	FS-40	Janitor's Closet and Chemical Storage	1	Box of Urn and Brewer Cleaner
L1	FS-41	Employee's Restroom	4	4' Fluorescent bulbs
L1	FS-41	Employee's Restroom	2	Ballasts
L1	FS-42	Employee's Lounge	4	4' Fluorescent bulbs
L1	FS-42	Employee's Lounge	2	Ballasts
L1	FS-42	Employee's Lounge	1	Microwave- misc. electronics
L1	FS-42	Employee's Lounge	1	1-Gallon Bleach 40% Full
L1	FS-43	Walk-In Coolers	3	CFC's and Compressors
L1	FS-44	Freezer	1	CFC and Compressor
L1	FS-45	Kitchen Storage	4	4' Fluorescent bulbs
L1	FS-45	Kitchen Storage	2	Ballasts
L1	FS-45	Kitchen Storage	1	Large Cylinder Helium NF2 Green
L1	FS-46	Kitchen Storage 2	4	2' Fluorescent bulbs- U-Shaped
L1	FS-46	Kitchen Storage 2	2	Ballasts

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Bldg. Level	Func. Space No.	Func. Space Name	Approximate Number	Description/ Comments
L1	FS-47	Kitchen Storage 3	50+	Coffee Pots- Miscellaneous Electronics
L1	FS-47	Kitchen Storage 3	8	4' Fluorescent bulbs
L1	FS-47	Kitchen Storage 3	4	Ballasts
L1	FS-48	South Kitchen Vestibule	4	4' Fluorescent bulbs
L1	FS-48	South Kitchen Vestibule	2	Ballasts
L1	FS-49	Vestibule 1	6	Compact Fluorescent Lights
L1	FS-50	Meeting Room D	8	2' Fluorescent bulbs- U-Shaped
L1	FS-50	Meeting Room D	4	Ballasts
L1	FS-50	Meeting Room D	1	Smoke Detector- Possible Radiation
L1	FS-51	Meeting Room E	12	2' Fluorescent bulbs- U-Shaped
L1	FS-51	Meeting Room E	6	Ballasts
L1	FS-51	Meeting Room E	1	Smoke Detector- Possible Radiation
L1	FS-52	Closet/ Storage Room	4	2' Fluorescent bulbs- U-Shaped
L1	FS-52	Closet/ Storage Room	2	Ballasts
L1	FS-52	Closet/ Storage Room	1	ATM Machine- Miscellaneous Electronics
L1	FS-52	Closet/ Storage Room	2	Video Monitors- Miscellaneous Electronics
L1	FS-53	Meeting Rooms A, B, and C	32	4' Fluorescent bulbs
L1	FS-53	Meeting Rooms A, B, and C	44	Ballast
L1	FS-53	Meeting Rooms A, B, and C	56	2' Fluorescent bulb- U-Shaped
L1	FS-53	Meeting Rooms A, B, and C	1	Mercury Thermostat
L1	FS-53	Meeting Rooms A, B, and C	16	Smoke Detectors- Possible Radiation
L1	FS-54	East Storage Room in Addition	1	Microwave- misc. electronics
L1	FS-54	East Storage Room in Addition	1	Copy Machine- Miscellaneous Electronics
L1	FS-54	East Storage Room in Addition	1	Box of Miscellaneous Computer Equipment
L1	FS-54	East Storage Room in Addition	1	Small Acetylene Cylinder
L1	FS-54	East Storage Room in Addition	1	Compact Fluorescent Light
L1	FS-54	East Storage Room in Addition	1	Smoke Detector- Possible Radiation
L1	FS-54	East Storage Room in Addition	1	1-Gallon Foam Max Corrosive, 50% Full
L1	FS-55	West Storage Room in Addition	1	Compact Fluorescent Light

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Bldg. Level	Func. Space No.	Func. Space Name	Approximate Number	Description/ Comments
L1	FS-55	West Storage Room in Addition	1	Smoke Detector- Possible Radiation
L1	FS-55	West Storage Room in Addition	1	Large Cylinder Helium NF2 Green- Full
L1	FS-55	West Storage Room in Addition	1	Over Head Projector- Miscellaneous Electronics
L1	FS-55	West Storage Room in Addition	1	3' Fluorescent bulb- Loose
L1-L8	FS-56	West Stairway	20	Compact Fluorescent Lights
L1-L8	FS-56	West Stairway	2	Smoke Detectors- Possible Radiation
L1-L8	FS-57	East Stairway	18	Compact Fluorescent Lights
L1-L8	FS-57	East Stairway	2	Smoke Detectors- Possible Radiation
L1	FS-58	Utility Room	1	Small Cylinder Propane 50% Full
L1	FS-58	Utility Room	1	Gas Heater (Hanging from Ceiling)
L1	FS-58	Utility Room	1	Commercial Cooking Oven
L1	FS-58	Utility Room	1	Fire Extinguisher
L1	FS-58	Utility Room	10	4' Fluorescent bulbs
L1	FS-58	Utility Room	5	Ballasts
L1	FS-58	Utility Room	4	Air Conditioner Units
L1	FS-58	Utility Room	2	Motors on Machinery (Possibly Oil-Filled)
L1	FS-58	Utility Room	1	Ajax Boiler WGB 2250D
L1	FS-59	Emergency Generator	1	Consumers EnergyTransformer (Will be Removed by Consumers Energy)
L1	FS-59	Emergency Generator	1	Emergency Generator (Privately Owned) - Possible Oil Filled Equipment
L1	FS-60	Elevators	6	4' Fluorescent bulbs
L1	FS-60	Elevators	3	Emergency Lights with Batteries
L1	FS-60	Elevators	6	Ballasts
L1	FS-61	Vestibule 2	4	4' Fluorescent bulbs
L1	FS-61	Vestibule 2	6	Compact Fluorescent Lights
L1	FS-61	Vestibule 2	2	Ballasts
L1	FS-62	Front Davenport	9	Mercury Vapor/ High Pressure Lamps
L1	FS-64	Corridor	10	4' Fluorescent bulbs

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L1	FS-64	Corridor	5	Ballasts
L1	FS-64	Corridor	2	Smoke Detectors- Possible Radiation
L1	FS-64	Corridor	2	Assumed Batteries in Security Light (Power was on, these were not opened)
L1	FS-65	Hallway	9	Compact Fluorescent Lights
L1	FS-65	Hallway	1	Smoke Detector- Possible Radiation
L1	FS-66	1st Floor Roof	4	Mercury Vapor/ High Pressure Lamps
L1	FS-66	1st Floor Roof	3	Roof Heating/ Cooling Units
L1	FS-67	8th Floor Roof	1	Cell Tower and Associated Equipment (Should be Removed by Sprint)
L1	FS-67	8th Floor Roof	3	Roof Heating/ Cooling Units
L1	FS-67	8th Floor Roof	2	Large Compact CFL Floodlights
L1	FS-67	8th Floor Roof	2	Ballasts
L1	FS-68	Penthouse	1	Aerosol- 20 Ounce Premium Enamel
L1	FS-68	Penthouse	2	1-Gallon Elevator Lubricants 25% Full
L1	FS-68	Penthouse	1	1 Quart Chain Oil
L1	FS-68	Penthouse	1	1 Gallon Can Oil Based Paint- 100% Full
L1	FS-68	Penthouse	1	Fire Extinguisher
L1	FS-68	Penthouse	1	1 Gallon Residual Oil
L1	FS-68	Penthouse	12	4' Fluorescent bulbs
L1	FS-68	Penthouse	6	Ballasts
L1	FS-68	Penthouse	1	1 Quart Oil in Paint Thinner Can
L1	FS-68	Penthouse	1	5-Gallon Container Hydraulic Oil- 25% Full
L1	FS-68	Penthouse	1	1-Gallon Elevator Oil 20% Full
L1	FS-68	Penthouse	3	Electric Motors with Oil Gear Box
L1	FS-68	Penthouse	1	1-Gallon Flat Oil-based Paint
L1	FS-68	Penthouse	1	Roof Tar 5 Gallon Container 10% Full
L1	FS-68	Penthouse	1	Mercury Vapor/ High Pressure Lamp

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PRE-DEMOLITION HAZARDOUS MATERIAL/ SPECIAL WASTE SURVEY

Client:	Saginaw County Brownfield Redevelopment Authority
Site Name:	Former Plaza Hotel
Site Address:	400 Johnson Street, Saginaw, MI
AKT Project No.:	7444s-3-18
Survey Date:	May 12, 2012

DRAFT

Bldg. Level	Func. Space No.	Func. Space Name	Approximate Number	Description/ Comments
L1	FS-68	Penthouse	2	1 Quart Oil in Catch Pans from Electric Motors
L1	FS-69	2nd Floor North-South Hallway	2	Compact Fluorescent Lights
L1	FS-69	2nd Floor North-South Hallway	1	Smoke Detector- Possible Radiation
L1	FS-70	2nd Floor East-West Hallway	14	Compact Fluorescent Lights
L1	FS-70	2nd Floor East-West Hallway	1	Large Cylinder Carbon Dioxide NF2 Gas
L1	FS-70	2nd Floor East-West Hallway	6	Smoke Detectors- Possible Radiation
L1	FS-71	3rd Floor North-South Hallway	2	Compact Fluorescent Lights
L1	FS-71	3rd Floor North-South Hallway	1	Smoke Detector- Possible Radiation
L1	FS-72	3rd Floor East-West Hallway	14	Compact Fluorescent Lights
L1	FS-72	3rd Floor East-West Hallway	6	Smoke Detectors- Possible Radiation
L1	FS-73	4th Floor North-South Hallway	2	Compact Fluorescent Lights
L1	FS-73	4th Floor North-South Hallway	1	Smoke Detector- Possible Radiation
L1	FS-74	4th Floor East-West Hallway	14	Compact Fluorescent Lights
L1	FS-74	4th Floor East-West Hallway	6	Smoke Detectors- Possible Radiation
L1	FS-75	5th Floor North-South Hallway	2	Compact Fluorescent Lights
L1	FS-75	5th Floor North-South Hallway	1	Smoke Detector- Possible Radiation
L1	FS-76	5th Floor East-West Hallway	14	Compact Fluorescent Lights
L1	FS-76	5th Floor East-West Hallway	6	Smoke Detectors- Possible Radiation
L1	FS-77	6th Floor North-South Hallway	2	Compact Fluorescent Lights
L1	FS-77	6th Floor North-South Hallway	1	Smoke Detector- Possible Radiation
L1	FS-78	6th Floor East-West Hallway	14	Compact Fluorescent Lights
L1	FS-78	6th Floor East-West Hallway	6	Smoke Detectors- Possible Radiation
L1	FS-79	7th Floor North-South Hallway	2	Compact Fluorescent Lights
L1	FS-79	7th Floor North-South Hallway	1	Smoke Detector- Possible Radiation
L1	FS-80	7th Floor East-West Hallway	14	Compact Fluorescent Lights
L1	FS-80	7th Floor East-West Hallway	6	Smoke Detectors- Possible Radiation
L1	FS-81	8th Floor North-South Hallway	2	Compact Fluorescent Lights
L1	FS-81	8th Floor North-South Hallway	1	Smoke Detector- Possible Radiation

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PRE-DEMOLITION HAZARDOUS MATERIAL/ SPECIAL WASTE SURVEY

Client:	Saginaw County Brownfield Redevelopment Authority
Site Name:	Former Plaza Hotel
Site Address:	400 Johnson Street, Saginaw, MI
AKT Project No.:	7444s-3-18
Survey Date:	May 12, 2012

DRAFT

Bldg. Level	Func. Space No.	Func. Space Name	Approximate Number	Description/ Comments
L1	FS-82	8th Floor East-West Hallway	15	Compact Fluorescent Lights
L1	FS-82	8th Floor East-West Hallway	6	Smoke Detectors- Possible Radiation
L2	FS-83	2nd Floor Vending Area	4	4' Fluorescent bulbs
L2	FS-83	2nd Floor Vending Area	2	Ballasts
L2	FS-83	2nd Floor Vending Area	1	Smoke Detector- Possible Radiation
L2	FS-84	2nd Floor Saginaw Room	5	Ballasts
L2	FS-84	2nd Floor Saginaw Room	1	Compact Fluorescent Light
L2	FS-84	2nd Floor Saginaw Room	8	4' Fluorescent bulbs
L2	FS-84	2nd Floor Saginaw Room	2	3' Fluorescent bulbs
L2	FS-85	Room 202	3	Air Conditioners
L2	FS-86	2nd Floor Rooms	56	3' Fluorescent bulbs
L2	FS-86	2nd Floor Rooms	28	Ballasts
L2	FS-86	2nd Floor Rooms	28	Smoke Detectors- Possible Radiation
L2	FS-86	2nd Floor Rooms	28	A/C Heating Cooling Units
L2	FS-86	2nd Floor Rooms	28	Televisions- Misc. Electronics
L2	FS-86	2nd Floor Rooms	14	Compact Fluorescent Lights
L3	FS-87	3rd Floor Vending Area	4	4' Fluorescent bulbs
L3	FS-87	3rd Floor Vending Area	2	Ballasts
L3	FS-87	3rd Floor Vending Area	1	Smoke Detector- Possible Radiation
L3	FS-87	3rd Floor Vending Area	1	Pop Machine- CFC's and Possible Bulbs and Ballasts
L3	FS-87	3rd Floor Vending Area	1	Ice Maker- CFC's
L3	FS-88	3rd Floor Rooms	56	3' Fluorescent bulbs
L3	FS-88	3rd Floor Rooms	28	Ballasts
L3	FS-88	3rd Floor Rooms	28	Smoke Detectors- Possible Radiation
L3	FS-88	3rd Floor Rooms	28	A/C Heating Cooling Units
L3	FS-88	3rd Floor Rooms	12	Televisions- Misc. Electronics
L3	FS-88	3rd Floor Rooms	14	Compact Fluorescent Lights
L4	FS-89	4th Floor Vending Area	4	4' Fluorescent bulbs
L4	FS-89	4th Floor Vending Area	2	Ballasts
L4	FS-89	4th Floor Vending Area	1	Smoke Detector- Possible Radiation
L4	FS-90	4th Floor Rooms	56	3' Fluorescent bulbs
L4	FS-90	4th Floor Rooms	28	Ballasts

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PRE-DEMOLITION HAZARDOUS MATERIAL/ SPECIAL WASTE SURVEY

Client:	Saginaw County Brownfield Redevelopment Authority
Site Name:	Former Plaza Hotel
Site Address:	400 Johnson Street, Saginaw, MI
AKT Project No.:	7444s-3-18
Survey Date:	May 12, 2012

DRAFT

Bldg. Level	Func. Space No.	Func. Space Name	Approximate Number	Description/ Comments
L4	FS-90	4th Floor Rooms	28	Smoke Detectors- Possible Radiation
L4	FS-90	4th Floor Rooms	28	A/C Heating Cooling Units
L4	FS-90	4th Floor Rooms	28	Televisions- Misc. Electronics
L4	FS-90	4th Floor Rooms	14	Compact Fluorescent Lights
L5	FS-91	5th Floor Vending Area	4	4' Fluorescent bulbs
L5	FS-91	5th Floor Vending Area	2	Ballasts
L5	FS-91	5th Floor Vending Area	1	Smoke Detector- Possible Radiation
L5	FS-91	5th Floor Vending Area	1	Pop Machine- CFC's and Possible Bulbs and Ballasts
L5	FS-91	5th Floor Vending Area	1	Ice Maker- CFC's
L5	FS-92	5th Floor Rooms	56	3' Fluorescent bulbs
L5	FS-92	5th Floor Rooms	28	Ballasts
L5	FS-92	5th Floor Rooms	28	Smoke Detectors- Possible Radiation
L5	FS-92	5th Floor Rooms	28	A/C Heating Cooling Units
L5	FS-92	5th Floor Rooms	20	Televisions- Misc. Electronics
L5	FS-92	5th Floor Rooms	14	Compact Fluorescent Lights
L6	FS-93	6th Floor Vending Area	4	4' Fluorescent bulbs
L6	FS-93	6th Floor Vending Area	2	Ballasts
L6	FS-93	6th Floor Vending Area	1	Smoke Detector- Possible Radiation
L6	FS-94	6th Floor Rooms	56	3' Fluorescent bulbs
L6	FS-94	6th Floor Rooms	28	Ballasts
L6	FS-94	6th Floor Rooms	28	Smoke Detectors- Possible Radiation
L6	FS-94	6th Floor Rooms	28	A/C Heating Cooling Units
L6	FS-94	6th Floor Rooms	28	Televisions- Misc. Electronics
L6	FS-94	6th Floor Rooms	14	Compact Fluorescent Lights
L7	FS-95	7th Floor Vending Area	4	4' Fluorescent bulbs
L7	FS-95	7th Floor Vending Area	2	Ballasts
L7	FS-95	7th Floor Vending Area	1	Smoke Detector- Possible Radiation
L7	FS-95	7th Floor Vending Area	1	Pop Machine- CFC's and Possible Bulbs and Ballasts
L7	FS-95	7th Floor Vending Area	1	Ice Maker- CFC's
L7	FS-96	7th Floor Rooms	56	3' Fluorescent bulbs
L7	FS-96	7th Floor Rooms	28	Ballasts

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PRE-DEMOLITION HAZARDOUS MATERIAL/ SPECIAL WASTE SURVEY

Client:	Saginaw County Brownfield Redevelopment Authority
Site Name:	Former Plaza Hotel
Site Address:	400 Johnson Street, Saginaw, MI
AKT Project No.:	7444s-3-18
Survey Date:	May 12, 2012

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Bldg. Level	Func. Space No.	Func. Space Name	Approximate Number	Description/ Comments
L7	FS-96	7th Floor Rooms	28	Smoke Detectors- Possible Radiation
L7	FS-96	7th Floor Rooms	28	A/C Heating Cooling Units
L7	FS-96	7th Floor Rooms	28	Televisions- Misc. Electronics
L7	FS-96	7th Floor Rooms	14	Compact Fluorescent Lights
L8	FS-97	8th Floor Vending Area	4	4' Fluorescent bulbs
L8	FS-97	8th Floor Vending Area	2	Ballasts
L8	FS-97	8th Floor Vending Area	1	Smoke Detector- Possible Radiation
L8	FS-98	8th Floor Rooms	48	3' Fluorescent bulbs
L8	FS-98	8th Floor Rooms	24	Ballasts
L8	FS-98	8th Floor Rooms	24	Smoke Detectors- Possible Radiation
L8	FS-98	8th Floor Rooms	24	A/C Heating Cooling Units
L8	FS-98	8th Floor Rooms	23	Televisions- Misc. Electronics
L8	FS-98	8th Floor Rooms	12	Compact Fluorescent Lights
Notes:			1. AST=aboveground tank, BATT=battery (vehicle size), CFC= chlorofluorocarbon containing equipment, CFL= Compact Fluorescent Lights, ELEC=electronics, LMP=mercury lamp, MMT=misc. liquid waste material, OFM=oil-filled machinery, POZ=poison (pesticide), RAD=radioactive device.	

APPENDIX B

LEAD PAINT – LABORATORY ANALYTICAL RESULTS

Certificate of Laboratory Analysis

Test Method, Metals Analysis

Project: 400 Johnson, Saginaw, MI
Project # 7444s-3-18

Report to:
Mr. Don Malusi
AKT Peerless
214 Janes Ave.
Saginaw, MI 48607

ARL Report # 12-L10515
Date Collected: 05/29/12
Date Received: 05/30/12
Date Analyzed: 05/31/12
Date Reported: 05/31/12

Sample Information	Method/MDL	Metal Type/Percent	Date/Analyst
Lab ID # L10515-01 Client #: LBP-1 Material: White Ceiling Paint, 8th Floor	SW846 - 7420 MDL - 0.01%	Pb - < 0.01%	05/31/12 RBB
Lab ID # L10515-02 Client #: LBP-2 Material: White Wall Paint, 8th Floor Stairway	SW846 - 7420 MDL - 0.01%	Pb - < 0.01%	05/31/12 RBB
Lab ID # L10515-03 Client #: QC-1 Material: White Paint	SW846 - 7420 MDL - 0.01%	Pb - < 0.01%	05/31/12 RBB
Lab ID # L10515-04 Client #: LBP-3 Material: Pink/White Column Paint, 1st Floor	SW846 - 7420 MDL - 0.01%	Pb - < 0.01%	05/31/12 RBB
Lab ID # L10515-05 Client #: LBP-4 Material: Beige Paint, 1st Floor Laundry N. Wall	SW846 - 7420 MDL - 0.01%	Pb - < 0.01%	05/31/12 RBB
Lab ID # L10515-06 Client #: QC-2 Material: Off-White Paint	SW846 - 7420 MDL - 0.01%	Pb - < 0.01%	05/31/12 RBB

For Layer samples, each component will be analyzed and reported separately. MDL = Minimum Detection Limit. Apex Research, Inc. participates in the AIHA ELPAT program.

Robert T. Letarte Jr., Laboratory Director

Certificate of Laboratory Analysis

Test Method, Metals Analysis

Project: 400 Johnson, Saginaw, MI
Project # 7444s-3-18

Report to:
Mr. Don Malusi
AKT Peerless
214 Janes Ave.
Saginaw, MI 48607

ARL Report # 12-L10515
Date Collected: 05/29/12
Date Received: 05/30/12
Date Analyzed: 05/31/12
Date Reported: 05/31/12

Sample Information	Method/MDL	Metal Type/Percent	Date/Analyst
Lab ID # L10515-07 Client #: LBP-5 Material: Gray Floor Paint, Laundry Room	SW846 - 7420 MDL - 0.01%	Pb - < 0.01%	05/31/12 RBB
Lab ID # L10515-08 Client #: LBP-6 Material: Beige Paint, N. Wall Exterior	SW846 - 7420 MDL - 0.01%	Pb - < 0.01%	05/31/12 RBB
Lab ID # L10515-09 Client #: LBP-7 Material: Green Paint, Lamp Post NW Side	SW846 - 7420 MDL - 0.01%	Pb - < 0.01%	05/31/12 RBB
Lab ID # L10515-10 Client #: LBP-8 Material: White Ext.Paint, On Columns S. Side Near Vestibule 3	SW846 - 7420 MDL - 0.01%	Pb - < 0.01%	05/31/12 RBB

For Layer samples, each component will be analyzed and reported separately. MDL = Minimum Detection Limit. Apex Research, Inc. participates in the AIHA ELPAT program.

Robert T. Letarte Jr., Laboratory Director

L 10515

APEX Research, Inc.

1054 Hi Tech Drive, Whitmore Lake, MI 48189. Phone: (734) 449 - 9990. Fax (734) 449 - 9991.
Web Site: http://apexresearch-inc.com. Email: Bob.Letarte@apexresearchlab.com

Customer Name: AKT Peerless
Address: 214 Janes Avenue
City, St., Zip: Saginaw, MI 48607
Phone: 989 754-9896 Fax: 989 754-3804

Date of Survey: 5-29-12
Project: 400 Johnson Saginaw, MI
Project # 7445-3-18
Contact Person: Don Malus
Email: malusd@aktpeerless.com

***Terms and conditions on the other side.*

Lab Use Only
Log-In:
Report:
Fax:
Verbal:
Email:

Turn Around Times: (Circle One)

Rush (24 hour) 48 hour 72 hour
Other: TTP yes / no (Test Till Positive)

Asbestos: Bulk ____ Wipe ____ Point Count ____ PCM ____
Lead: Bulk ____ Wipe ____ Air ____ Paint X Soil ____
Mold: Bulk ____ Tape ____ BioSIS ____ Other ____ Viable ____
TEM: Bulk/NOP ____ AHERA ____ EPA Level II ____ Other ____

Lab ID	Customer ID #	Material/Location	Volume	Area	Results
1	LBP-1	White Ceiling 8th Floor			
2	LBP-2	White Paint Wall 8th Floor stairway			
3	QC-1	QC White Paint			
4	LBP-3	1st 2 Floor Pink/white Paint on Columns			
5	LBP-4	Beige Paint 1st Floor Laundry Room wall			
6	QC-2	Off-White Paint			
7	LBP-5	Gray Floor Paint Laundry Room			
8	LBP-6	Beige Paint North Wall Exterior			
9	LBP-7	Green Paint on Lamp Post NW side			
	~~LBP-8~~	~~Dull Green Paint on Sidewalk Entrance~~			
10	LBP-8	White exterior Paint on Columns near Vestibule 3	5 51 ols		

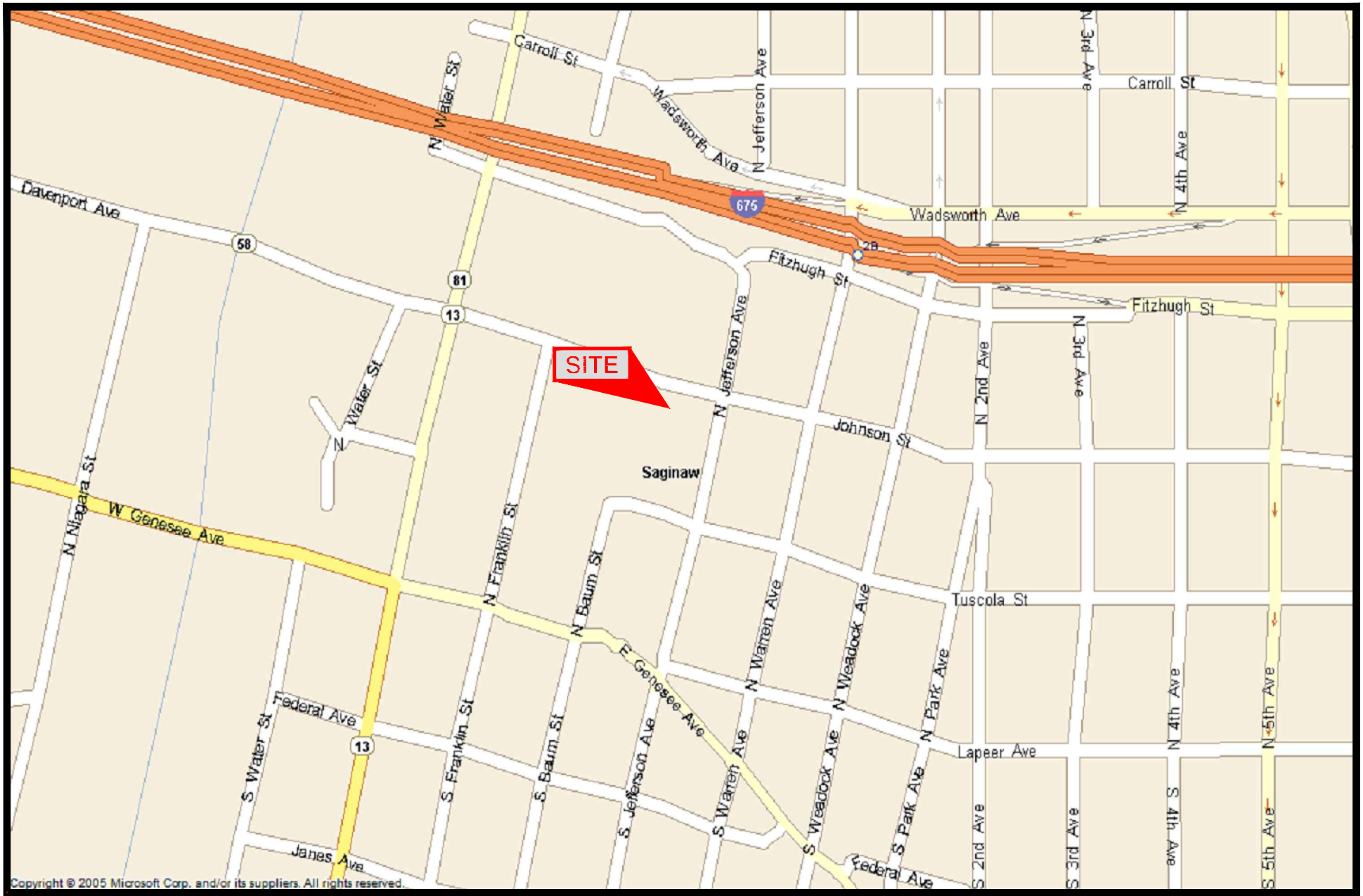
Relinquished By: ____ Received By: ____ Relinquished By: ____ Relinquished By: ____
Date: ____ Date: ____ Date: ____ Date: ____

RECEIVED
MAY 30 2012
APEX RESEARCH

Revision Date: June/2011

APPENDIX B

HAZARDOUS MATERIAL SURVEY FIGURES



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SUBJECT PROPERTY LOCATION MAP

FORMER PLAZA HOTEL
400 JOHNSON STREET
SAGINAW, MICHIGAN
PROJECT NUMBER : 7444s

LEGEND

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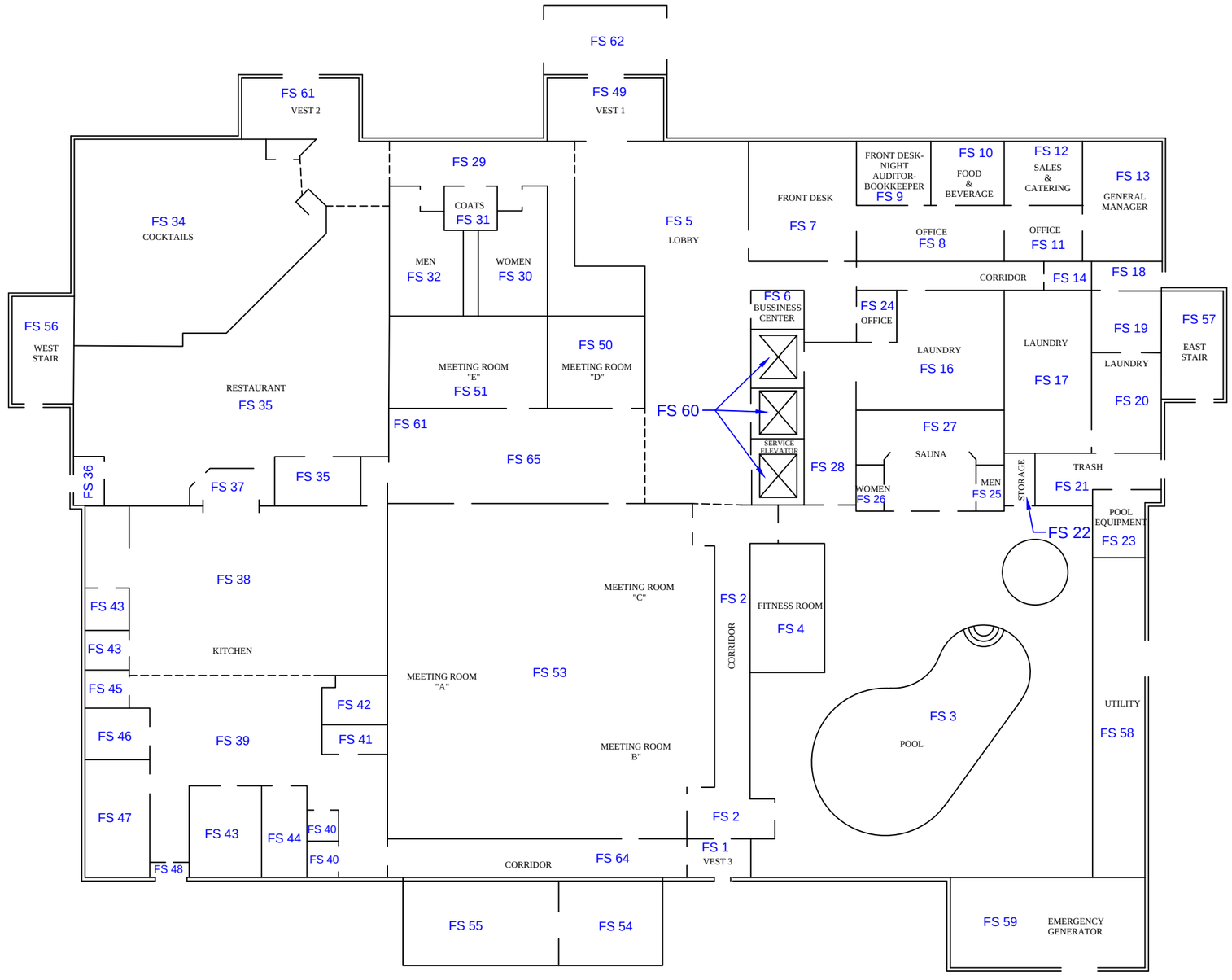
DRAWN BY: OGO
DATE: 05-24-12

FIGURE 1



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DRAWN BY: OGO
DATE: 05-31-12

SCALE: 1" = 20'-0"
0 10 20

FIGURE 2

FUNCTIONAL SPACE MAP- FIRST FLOOR

FORMER PLAZA HOTEL
400 JOHNSON STREET
SAGINAW, MICHIGAN
PROJECT NUMBER : 7444s

FS 62 - Front Davenport
FS 63 - Exterior
FS 66 - 1st Floor Roof
FS 67 - 8th Floor Roof
FS 68 - Penthouse on 8th Floor Roof

Scale is approximate, room locations area generalized

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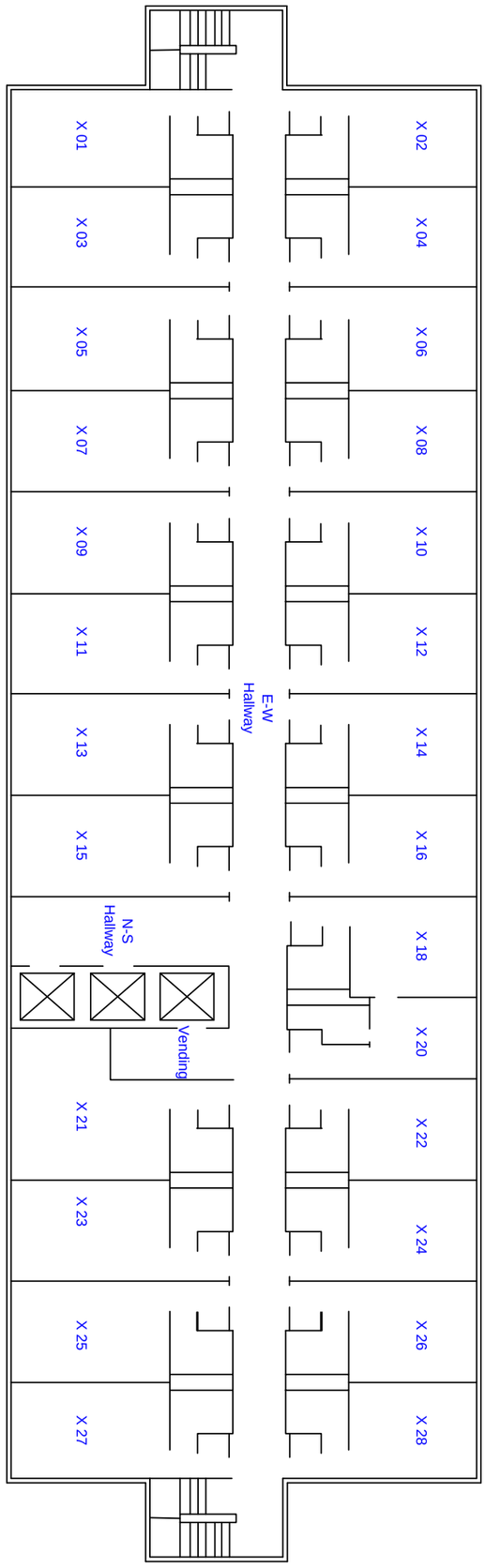
Scale is approximate, room locations area generalized



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FUNCTIONAL SPACE MAP- 2ND-7TH FLOORS

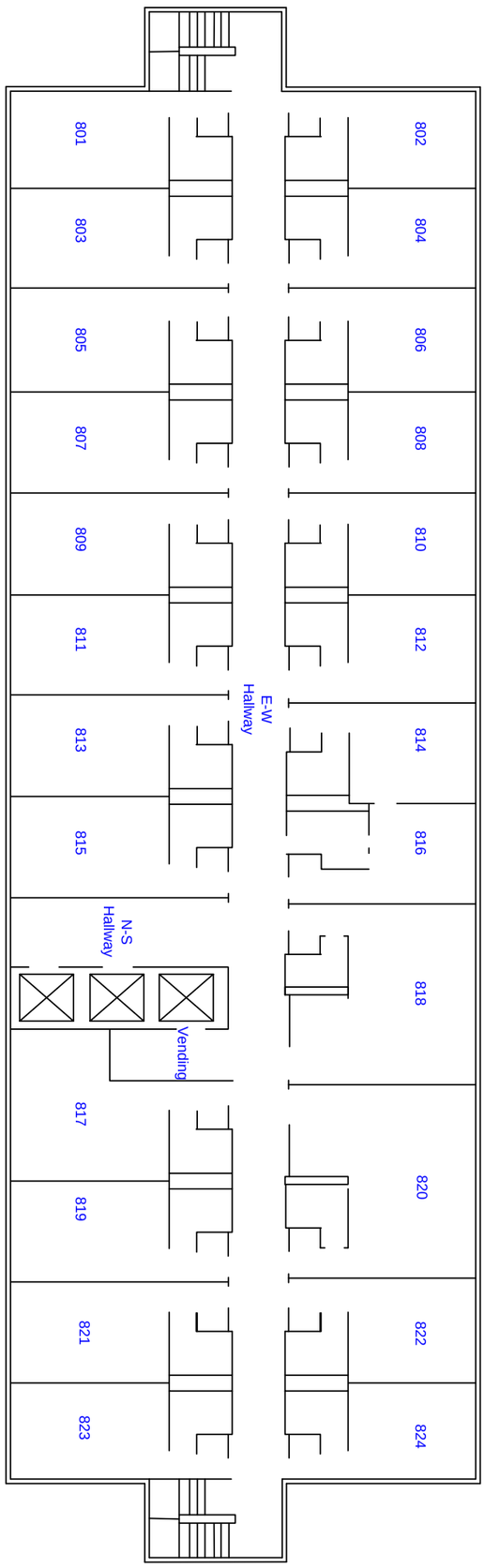
FORMER PLAZA HOTEL
400 JOHNSON STREET
SAGINAW, MICHIGAN
PROJECT NUMBER : 7444s

DRAWN BY: OGO
DATE: 05-31-12

0 10 20
SCALE: 1" = 20'±0

FIGURE 3

Scale is approximate, room locations area generalized



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FUNCTIONAL SPACE MAP- 8TH FLOOR

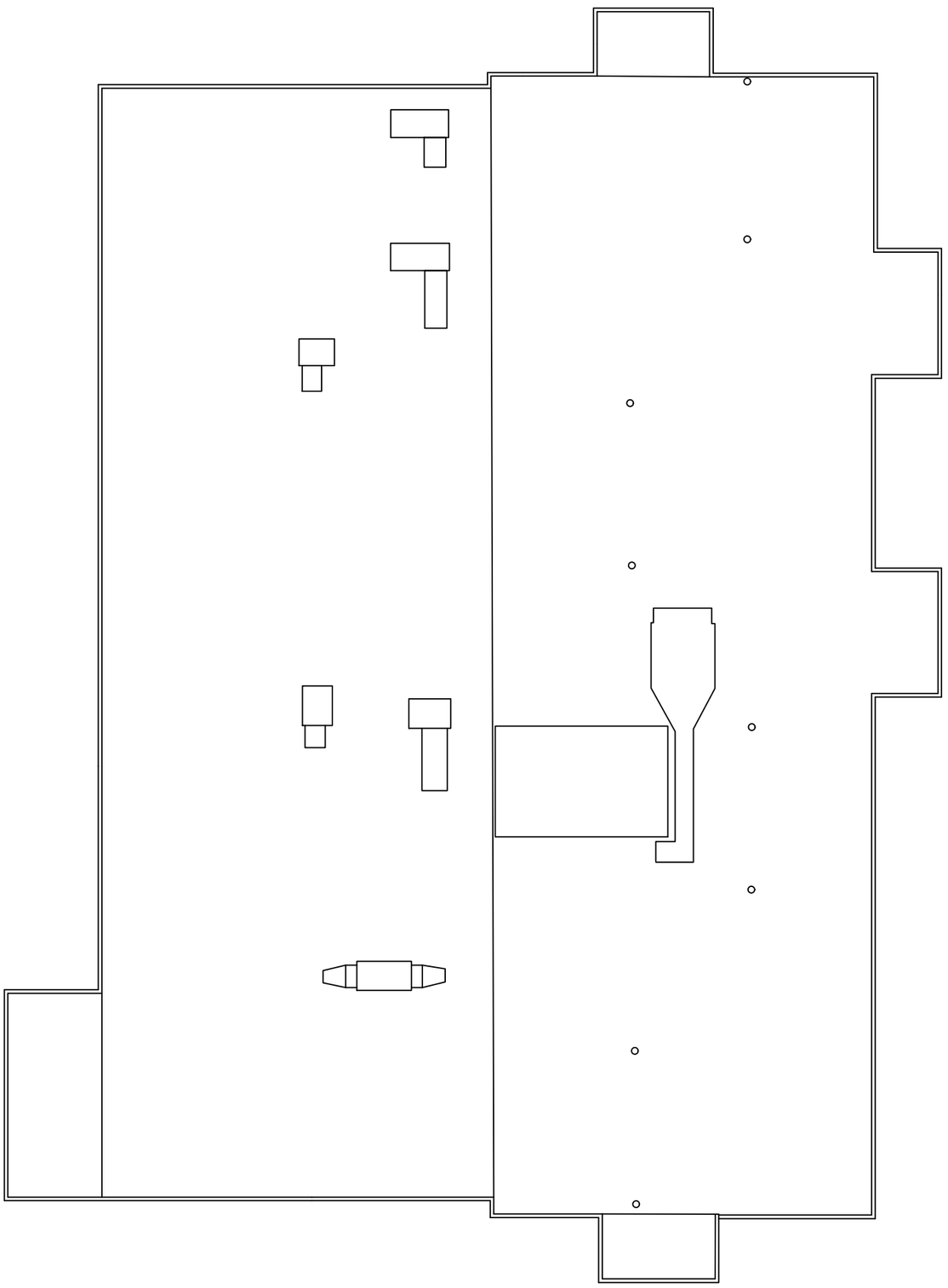
FORMER PLAZA HOTEL
400 JOHNSON STREET
SAGINAW, MICHIGAN
PROJECT NUMBER : 7444s

DRAWN BY: OGO
DATE: 05-31-12

0 10 20
SCALE: 1" = 20'±0

FIGURE 4

Scale is approximate; room locations area generalized



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FUNCTIONAL SPACE MAP- ROOF

FORMER PLAZA HOTEL
400 JOHNSON STREET
SAGINAW, MICHIGAN
PROJECT NUMBER : 7444s

DRAWN BY: OGO
DATE: 05-31-12

0 10 20
SCALE: 1" = 20'±0

FIGURE 5

APPENDIX C

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CONTRACTOR DISCLOSURE STATEMENT

400 JOHNSON STREET
SAGINAW, MICHIGAN

April 2012

Metals and polynuclear aromatics (PNAs) are present in soil and metals are present within the groundwater at this site at concentrations exceeding the Michigan Department of Environmental Quality (MDEQ), Generic Cleanup Criteria developed under the authority of Part 201 of the Natural Resources and Environmental Protection Act (NREPA), P.A. 451 of 1994, as amended. Specifically, subsurface investigations conducted to date have identified the presence of arsenic, chromium, lead, mercury, selenium, benzo(a)pyrene, fluoranthrene, and phenanthrene in soil throughout the subject property from 2 feet to 7 feet below surface grade in excess of the residential and non-residential drinking water and/or groundwater surface water interface protection criteria. Levels of lead and benzo(a)pyrene were identified in excess of residential direct contact criteria. Note the non-residential direct contact criteria was not exceeded. Lead was identified within the groundwater on the northern and southern portion of the property in excess of the residential and non-residential drinking water criteria. Note groundwater in the area of the property is not used as a potable drinking water source.

Delineation of the on-site impacts has not been conducted; therefore, impacts should be assumed to be located at uncharacterized portions of the property. As part of the due care obligation under Section 20107a, the following measures shall be followed by all occupants (i.e. contractors and subcontractors) during site activities:

Due to the presence of contaminants at concentrations, which exceed Part 201 cleanup criteria and screening levels, excavation on the property should be restricted except for the purpose of construction, landscaping, or utility installation/repair. All activities related to landscaping, construction, and utility installation/repair will be conducted by an authorized contractor. It is recommended that excavation activities be conducted under a Health and Safety Plan (HASP). Any contractors working with materials containing potentially hazardous substances shall prepare a HASP, which will include, at a minimum, emergency contact numbers, hospital locations, personal protective equipment (i.e., gloves, boots, coveralls, etc.), and decontamination procedures. HASPs prepared for this work should be read and signed by all workers assigned to the project. Upon request, the contractor must provide the HASP to the property owner or representative for review.

Precautions should be taken to ensure that impacted subsurface materials are not exacerbated. Should subsurface soil become exposed, through excavation, utility installation, etc., appropriate action should be taken to prevent exacerbation. Actions could include: (1) promptly returning impacted soil to the excavation, (2) removing the impacted soil to a proper disposal facility, and backfilling with clean fill material, (3) covering exposed soil with clean fill

material, (4) properly managing soil, stockpiled or otherwise through the use of erosion controls, etc. to prevent contaminated soil runoff, (5) implementation of a dust management plan, and/or (6) prevent track-off of soils to public right of ways and roadways.

Due to the presence of contamination, procedures should be developed to protect against fugitive dust and trackout. Plans should include specific measures necessary to ensure impacted soil does not leave the site during construction activities. Additionally, plans should outline procedures for ensuring that large piles of soil are limited to protect against the generation of dust.

Precautions should be taken to ensure that impacted soils are protected from rainfall and storm water. Should subsurface soil become exposed, through excavation, grading, etc., appropriate action should be taken to prevent leaching of contaminants due to storm water contact/infiltration. Actions could include: (1) promptly returning impacted soil to the excavation, (2) removing the impacted soil to a proper disposal facility, and backfilling with clean fill material, (3) covering exposed soil with clean fill material, (4) covering impacted material with plastic sheeting, and/or (5) placement of impacted soil beneath a berm or paved areas.

Soil must be handled in a manner that prevents erosion and runoff to a surface water or beyond the property boundary. The soil erosion and sedimentation control plan shall be followed. Erosion controls (silt fencing or other barriers) must be utilized: (1) around the perimeter of the property and (2) around any areas where excavated soil is stockpiled or mounded. Additionally, as previously discussed above, stockpiled and mounded soil should be minimized at the subject property.

All soil that is not re-used on site will be disposed of at an approved landfill. In no instance is soil to be transported off-site other than to an appropriate Type II landfill.

Unless proper characterization is conducted, subsurface soil or groundwater should not be relocated to another parcel.

Barricade and maintain open excavations when excavated soils cannot be returned to the excavation.

Promptly fill excavations, below grade areas or voids to ensure water does not collect within the area. If excavations remain open and groundwater accumulates in the excavation, all groundwater must be handled as described in the following paragraph. If surface water from precipitation accumulates in below grade areas, the water must be handled as described below and treated as if it is contaminated. Analytical testing may be conducted to confirm the presence of contamination within accumulated water. If contamination is present in accumulated surface water at concentrations exceeding groundwater surface water interface criteria, any such surface water must be handled in accordance with protocols described in the following paragraph. If

contamination is below groundwater surface water interface criteria, it may be discharged as acceptable to local, state, and federal regulations. Characterization must be conducted prior to each potential discharge event.

Groundwater pumping for the purposes of dewatering excavations must be conducted in accordance with applicable rules and regulations. It is permissible to leave encountered groundwater in place. However, if dewatering will occur water must be properly disposed of in accordance with applicable rules and regulations. It is not permissible to pump groundwater, accumulated rainwater, or surface water to storm or sanitary sewers without proper permits and monitoring required by the City and the MDEQ. It is also not permissible to pump groundwater onto the ground surface of the subject property or into nearby surface water. Groundwater that accumulates in excavations must be contained (i.e. bermed or diked areas) until it can be pumped to a treatment facility or groundwater may also be pumped to the local Waste Water Treatment Plant provided that appropriate characterization is conducted and disposal is approved by the local municipality. Groundwater and impacted surface water is not to be discharged from the property in any manner other than described herein or as approved by local, state, and federal authorities.

Excavations that penetrate the groundwater table must be backfilled with clean fill material.

Water wells shall not be installed on the subject property, without further characterization of subsurface groundwater conditions. Groundwater isolation shall be achieved primarily through provision of municipal water to the subject property. Groundwater shall not be utilized for construction purposes or potable water.

Importation of fill material other than clean backfill from a gravel/sand yard is prohibited. Importation of fill material from another property is prohibited until the fill materials have been characterized and deemed appropriate for use on site.

Any buried abandoned containers (i.e. underground storage tanks (USTs), drums, pipelines, etc.) that are discovered during construction must be appropriately characterized and removed. Any abandoned containers that are discovered should not be disturbed and any activities that could result in damage to buried containers ceased. Construction activities should not resume until the abandoned container(s) are properly assessed and removed.

No fire or explosion hazards have been identified at the subject property, with respect to the known environmental contamination.

Precautions to prevent the reasonably foreseeable acts or omissions of a third party will be implemented. Contractors will be required to keep unauthorized persons off the subject property during the construction activities. Actions could include: (1) post "no trespassing" signs, and/or (2) maintain fencing to prohibit the public from entering the subject property. Open excavations will be fenced to prevent access by unauthorized personnel. Subcontractors will not be brought onto the property without oversight of the authorized contractor and completion of this disclosure statement.

I have read and understand this Disclosure Statement.

_____
Name

_____
Signature

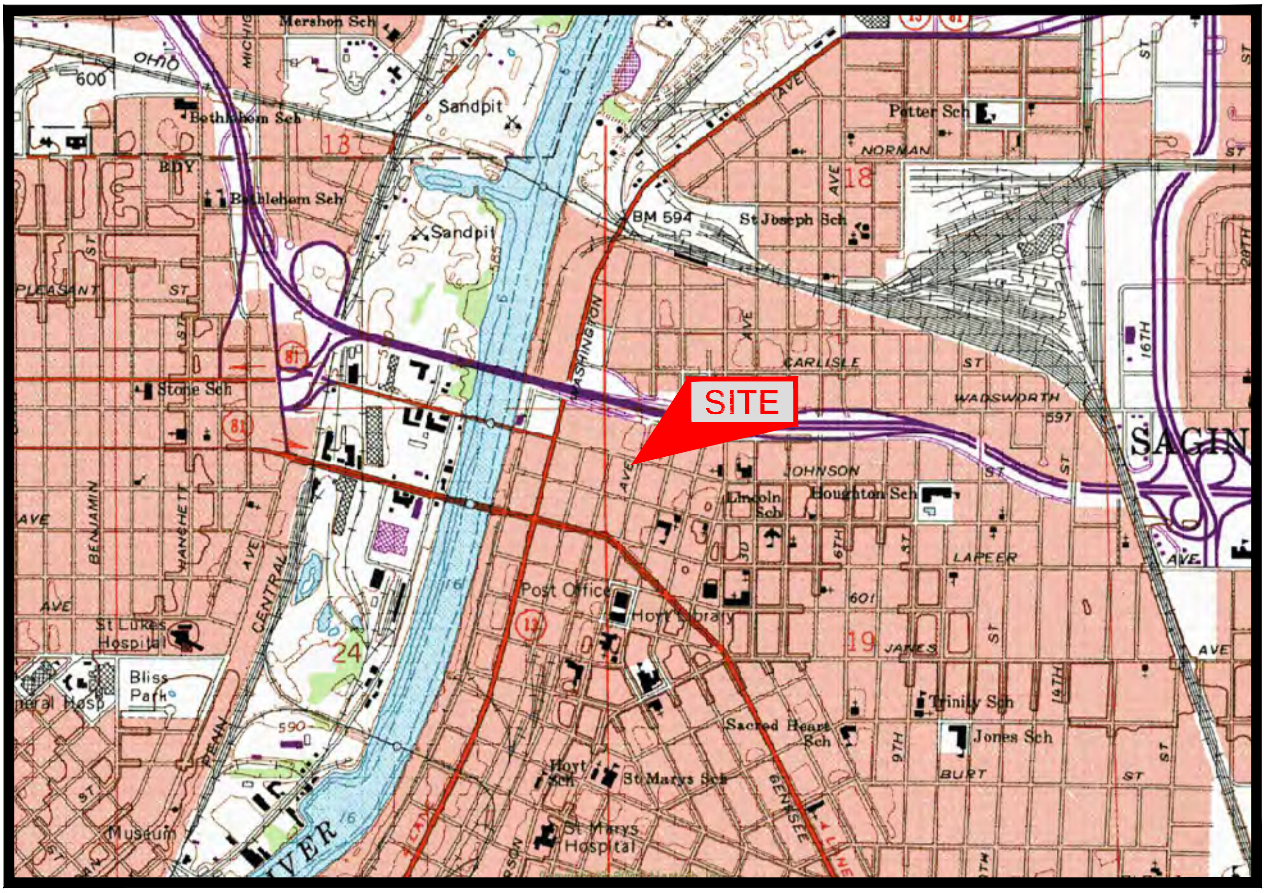
_____
Company

_____
Date

SAGINAW QUADRANGLE

MICHIGAN - SAGINAW COUNTY

7.5 MINUTE SERIES (TOPOGRAPHIC)



T.12 N.-R.4 E.

1 ½ 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 .5 0 1 KILOMETER

CONTOUR INTERVAL 5 FEET
DATUM IS MEAN SEA LEVEL

MICHIGAN
QUADRANGLE LOCATION

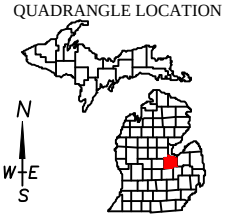


IMAGE TAKEN FROM 1967 U.S.G.S. TOPOGRAPHIC MAP
PHOTOREVISED 1973

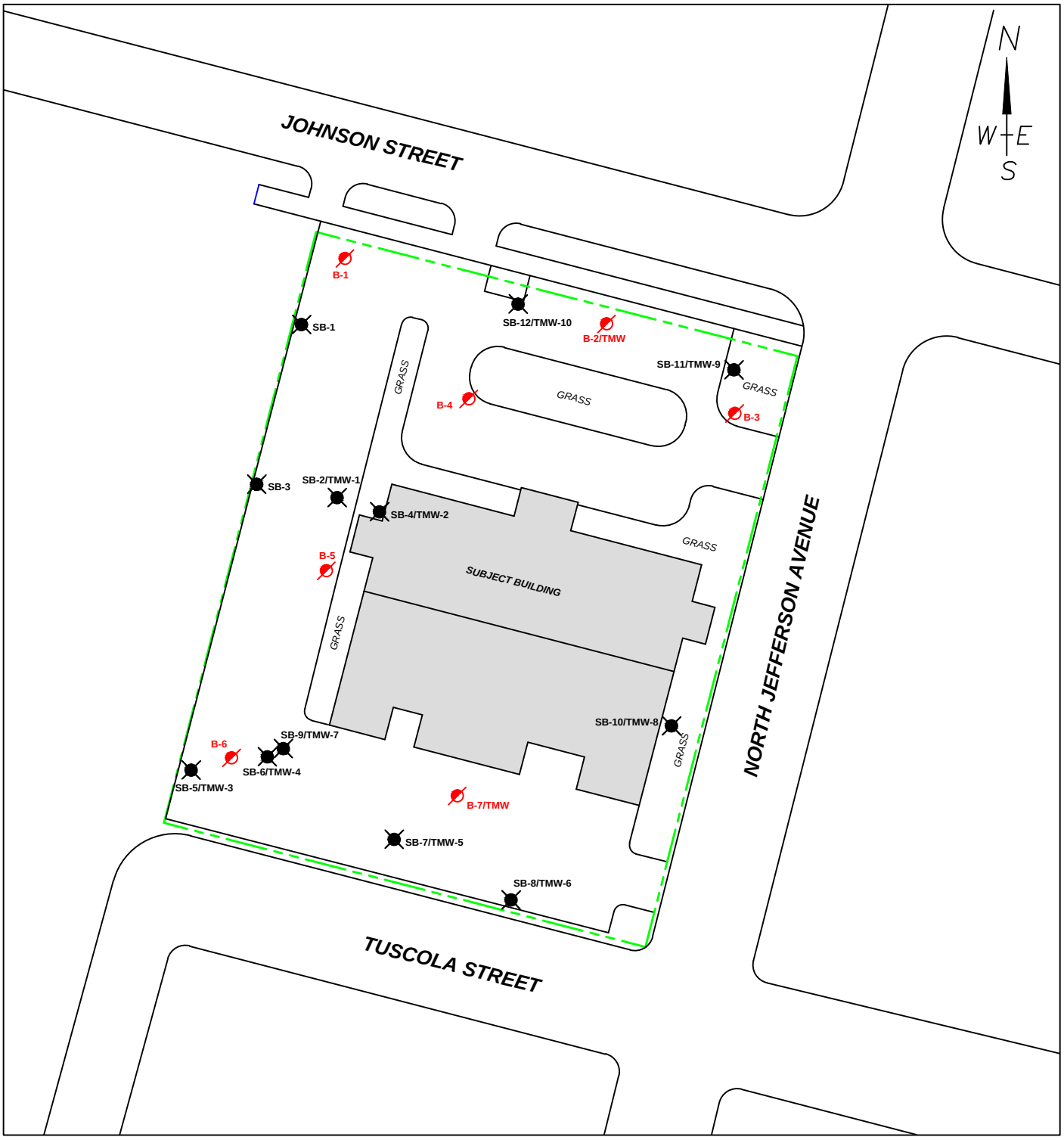
AKTPEERLESS
environmental & energy services
CHICAGO DETROIT FARMINGTON LANSING SAGINAW
www.aktpeerless.com

TOPOGRAPHIC LOCATION MAP

400 JOHNSON STREET
SAGINAW, MICHIGAN
PROJECT NUMBER : 7444s-2-20

DRAWN BY: OGO
DATE: 02-02-12

FIGURE 1



LEGEND

= PROPERTY LINE

= SOIL BORING BY PEERLESS ENVIRONMENTAL, 1995

= SOIL BORING BY AKT PEERLESS ENVIRONMENTAL, 2012

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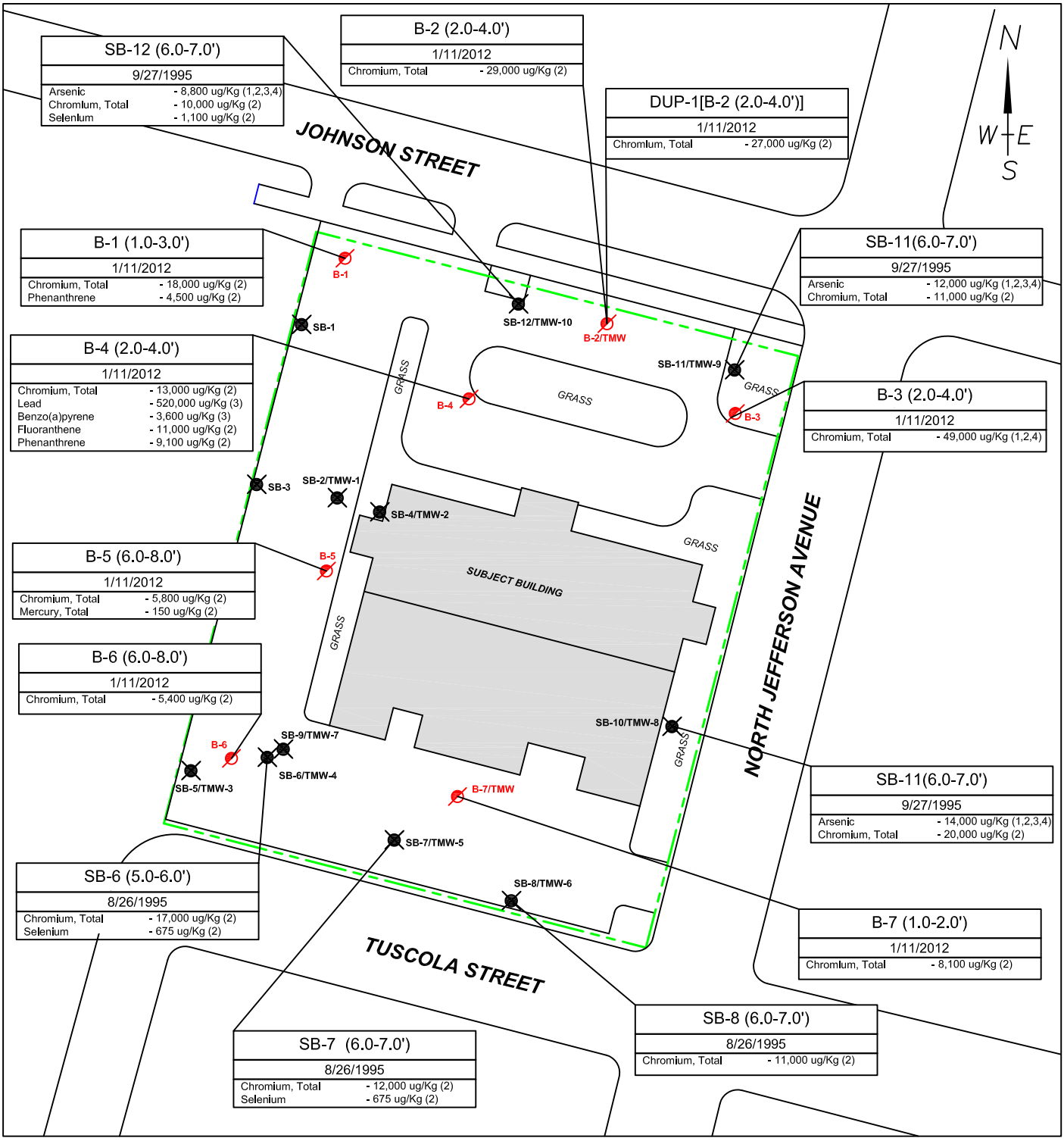
SAMPLE LOCATION MAP

400 JOHNSON STREET
SAGINAW, MICHIGAN
PROJECT NUMBER : 7444s-2-20

DRAWN BY: OGO
DATE: 02-02-12

0 40 80
SCALE: 1" = 80' ±0

FIGURE 2



CRITERIA NOTE

(1) - Exceeds Residential Drinking Water Protection Criteria and RBSLs
(2) - Exceeds Groundwater Surface Water Interface Protection Criteria and RBSLs
(3) - Exceeds Residential Direct Contact Criteria and RBSLs
(4) - Exceeds Non-Residential Drinking Water Protection Criteria and RBSLs

LEGEND

= PROPERTY LINE
= SOIL BORING BY PEERLESS ENVIRONMENTAL, 1995
= SOIL BORING BY AKT PEERLESS ENVIRONMENTAL, 2012

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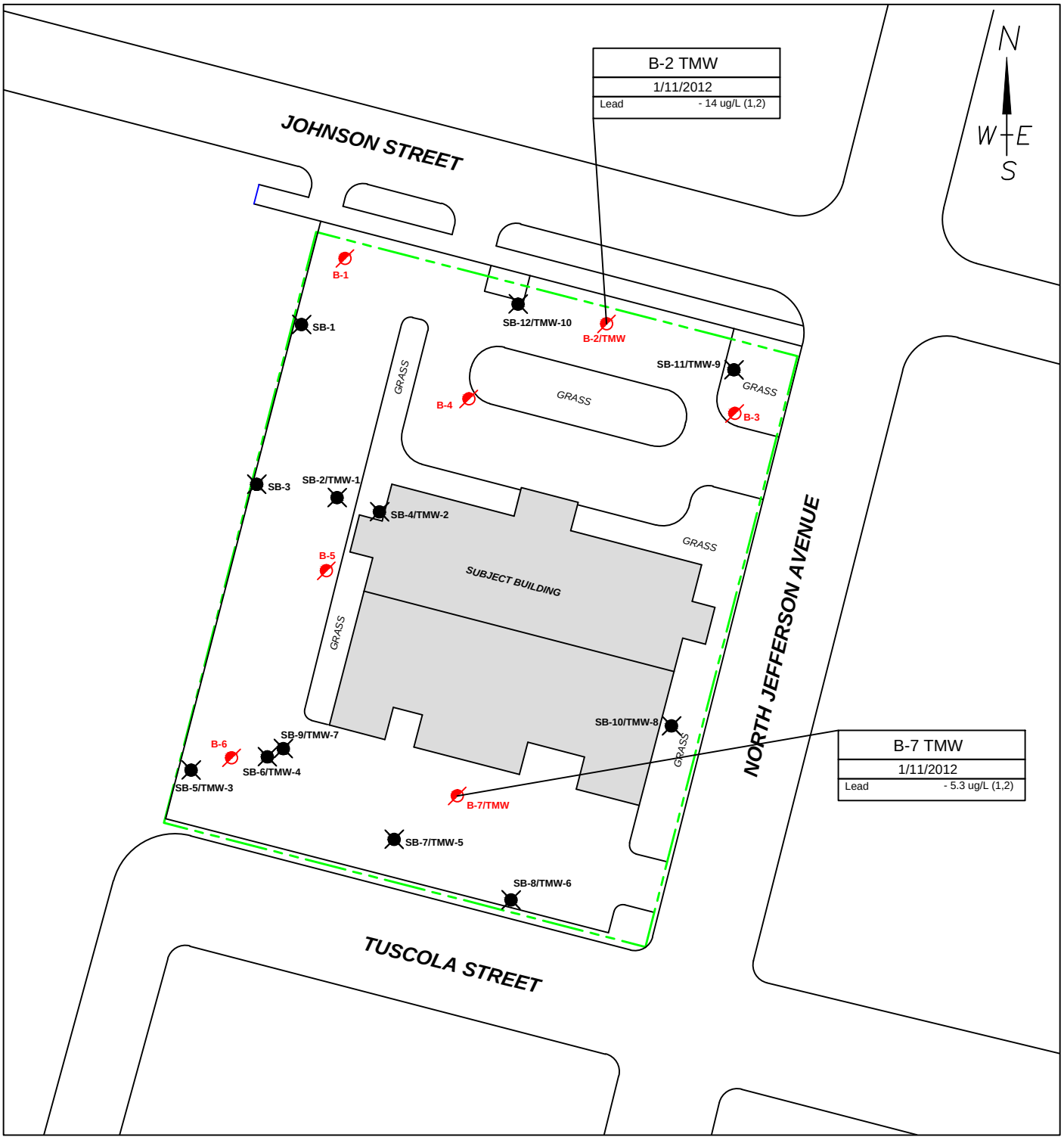
SITE MAP WITH SOIL RESULTS EXCEEDING MDEQ GCC

400 JOHNSON STREET
SAGINAW, MICHIGAN
PROJECT NUMBER : 7444s-2-20

DRAWN BY: OGO
DATE: 02-02-12

0 40 80
SCALE: 1" = 80'±0

FIGURE 3



LEGEND

= PROPERTY LINE

= SOIL BORING BY PEERLESS ENVIRONMENTAL, 1995

= SOIL BORING BY AKT PEERLESS ENVIRONMENTAL, 2012

CRITERIA NOTE

(1) - Exceeds Residential Drinking Water Criteria and RBSLs
(2) - Exceeds Non-Residential Drinking Water Criteria and RBSLs

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SITE MAP WITH GROUNDWATER RESULTS EXCEEDING MDEQ GCC

400 JOHNSON STREET
SAGINAW, MICHIGAN
PROJECT NUMBER : 7444s-2-20

DRAWN BY: OGO
DATE: 02-02-12

0 40 80
SCALE: 1" = 80'±0

FIGURE 4

TABLES

Table 1, Summary of Soil Analytical Results
400 Johnson Street
Saginaw, Michigan
AKT Peerless Project No.7444s-2-20

Guidesheet Number →		#10	#11	#12	#13	#14	#15	#18	#19	#21	#22	#26	#27								
Parameters* *(Refer to detailed laboratory report for method reference data)*	**Chemical Abstract Service Number**	**Statewide Default Background Levels**	**Residential Drinking Water Protection Criteria and RBSLs**	**Groundwater Surface Water Interface Protection Criteria & RBSLs**	**Groundwater Contact Protection Criteria & RBSLs**	**Residential Soil Volatilization to Indoor Air Inhalation Criteria and RBSLs**	**Residential Infinite Source Volatile Soil Inhalation Criteria (VSIC) and RBSLs**	**Residential Particulate Soil Inhalation Criteria and RBSLs**	**Residential Direct Contact Criteria and RBSLs**	**Non-residential Drinking Water Protection Criteria & RBSLs**	**Non-Residential Soil Volatilization to Indoor Air Inhalation Criteria and RBSLs**	**Non-Residential Particulate Soil Inhalation Criteria and RBSLs**	**Non-Residential Direct Contact Criteria and RBSLs**	Sample Location	B-1	B-2	DUP-1 (B-2)	B-3	B-4	B-5	B-6	B-7
														Collection Date	1/11/2012	1/11/2012	1/11/2012	1/11/2012	1/11/2012	1/11/2012	1/11/2012	1/11/2012
														Depth	1-3'	2-4'	2-4'	2-4'	2-4'	6-8'	6-8'	1-2'
Metals ug/Kg																						
Arsenic	7440-38-2	5,800	4,600	4,600	2.0E+6	NLV	NLV	7.2E+5	7,600	4,600	NLV	9.1E+5	37,000		NS	NS	NS	NS	NS	**2,000**	**3,200**	NS
Barium (B)	7440-39-3	75,000	1.3E+6	7.9E+5(G)	1.0E+9 (D)	NLV	NLV	3.3E+8	3.7E+7	1.3E+6	NLV	1.5E+8	1.3E+8		NS	NS	NS	NS	NS	**48,000**	**30,000**	NS
Cadmium (B)	7440-43-9	1,200	6,000	5.4E+3(G,X)	2.3E+8	NLV	NLV	1.7E+6	5.5E+5	6,000	NLV	2.2E+6	2.1E+6		**450**	**140**	**450**	**83**	**1,400**	**120**	<50	**660**
Chromium, Total	7440-47-3	**18,000 (total)**	**30,000**	**3,300**	1.4E+8	NLV	NLV	2.6E+5	2.5E+6	**30,000**	NLV	2.4E+5	9.2E+6		**18,000**	**29,000**	**27,000**	**49,000**	**13,000**	**5,800**	**5,400**	**8,100**
Copper (B)	7440-50-8	32,000	5.8E+6	1.2E+5(G)	1.0E+9 (D)	NLV	NLV	1.3E+8	2.0E+7	5.8E+6	NLV	5.9E+7	7.3E+7		NS	NS	NS	NS	NS	**8,800**	**4,500**	NS
Lead (B)	7439-92-1	**21,000**	7.0E+5	4.9E+6(G,X)	ID	NLV	NLV	1.0E+8	**4.0E+5**	7.0E+5	NLV	4.4E+7	9.0E+5 (DD)		**260,000**	**45,000**	**220,000**	**14,000**	**520,000**	**32,000**	**3,300**	**240,000**
Mercury, Total	7439-97-6	**130**	1,700	**50 (M); 1.2**	47,000	48,000	52,000	2.0E+7	1.6E+5	1,700	89,000	8.8E+6	5.8E+5		NS	NS	NS	NS	NS	**150**	<50	NS
Selenium (B)	7782-49-2	410	4,000	400	7.8E+7	NLV	NLV	1.3E+8	2.6E+6	4,000	NLV	5.9E+7	9.6E+6		NS	NS	NS	NS	NS	**240**	<200	NS
Zinc (B)	7440-66-6	**47,000**	2.4E+6	2.6E+5(G)	1.0E+9 (D)	NLV	NLV	ID	1.7E+8	5.0E+6	NLV	ID	6.3E+8		NS	NS	NS	NS	NS	**83,000**	**13,000**	NS
Semivolatiles, PNAs ug/Kg																						
Acenaphthene	83-32-9	NA	3.0E+5	8,700	9.7E+5	1.9E+8	8.1E+7	1.4E+10	4.1E+7	8.8E+5	3.5E+8	6.2E+9	1.3E+8		**730**	<330	<330	<330	**540**	<330	<330	<330
Acenaphthylene	208-96-8	NA	5,900	ID	4.4E+5	1.6E+6	2.2E+6	2.3E+9	1.6E+6	17,000	3.0E+6	1.0E+9	5.2E+6		<330	<330	<330	<330	**870**	<330	<330	<330
Anthracene	120-12-7	NA	41,000	ID	41,000	1.0E+9 (D)	1.4E+9	6.7E+10	2.3E+8	41,000	1.0E+9 (D)	2.9E+10	7.3E+8		**1,200**	<330	<330	<330	**2,500**	<330	<330	<330
Benzo(a)anthracene (Q)	56-55-3	NA	NLL	NLL	NLL	NLV	NLV	ID	20,000	NLL	NLV	ID	80,000		**1,800**	**850**	**930**	<330	**3,900**	<330	<330	**550**
Benzo(a)pyrene (Q)	50-32-8	NA	NLL	NLL	NLL	NLV	NLV	1.5E+6	**2,000**	NLL	NLV	1.9E+6	8,000		**1,600**	**760**	**860**	<330	**3,600**	<330	<330	**350**
Benzo(b)fluoranthene (Q)	205-99-2	NA	NLL	NLL	NLL	ID	ID	ID	20,000	NLL	ID	ID	80,000		**1,900**	**1,000**	**1,100**	<330	4,500	<330	<330	**550**
Benzo(g,h,i)perylene	191-24-2	NA	NLL	NLL	NLL	NLV	NLV	8.0E+8	2.5E+6	NLL	NLV	3.5E+8	7.0E+6		**970**	**450**	**510**	<330	**2,100**	<330	<330	<330
Benzo(k)fluoranthene (Q)	207-08-9	NA	NLL	NLL	NLL	NLV	NLV	ID	2.0E+5	NLL	NLV	ID	8.0E+5		**730**	**370**	**440**	<330	**1,800**	<330	<330	<330
Chrysene (Q)	218-01-9	NA	NLL	NLL	NLL	ID	ID	ID	2.0E+6	NLL	ID	ID	8.0E+6		**1,700**	**800**	**830**	<330	**3,900**	<330	<330	**420**
Dibenzo(a,h)anthracene (Q)	53-70-3	NA	NLL	NLL	NLL	NLV	NLV	ID	2,000	NLL	NLV	ID	8,000		<330	<330	<330	<330	**560**	<330	<330	<340
Fluoranthene	206-44-0	NA	7.3E+5	**5,500**	7.3E+5	1.0E+9 (D)	7.4E+8	9.3E+9	4.6E+7	7.3E+5	1.0E+9 (D)	4.1E+9	1.3E+8		**4,900**	**1,400**	**1,500**	<330	**11,000**	<330	<330	**920**
Fluorene	86-73-7	NA	3.9E+5	5,300	8.9E+5	5.8E+8	1.3E+8	9.3E+9	2.7E+7	8.9E+5	1.0E+9 (D)	4.1E+9	8.7E+7		**470**	<330	<330	<330	**970**	<330	<330	<330
Indeno(1,2,3-cd)pyrene (Q)	193-39-5	NA	NLL	NLL	NLL	NLV	NLV	ID	20,000	NLL	NLV	ID	80,000		**1,100**	500	**560**	<330	**2,600**	<330	<330	<330
2-Methylnaphthalene	91-57-6	NA	57,000	4,200	5.5E+6	2.7E+6	1.5E+6	6.7E+8	8.1E+6	1.7E+5	4.9E+6	2.9E+8	2.6E+7		<330	<330	<330	<330	**550**	<330	<330	<330
Phenanthrene	85-01-8	NA	56,000	**2,100**	1.1E+6	2.8E+6	1.6E+5	6.7E+6	1.6E+6	1.6E+5	5.1E+6	2.9E+6	5.2E+6		**4,500**	**630**	**730**	<330	**9,100**	<330	<330	**670**
Pyrene	129-00-0	NA	4.8E+5	ID	4.8E+5	1.0E+9 (D)	6.5E+8	6.7E+9	2.9E+7	4.8E+5	1.0E+9 (D)	2.9E+9	8.4E+7		**3,700**	**1,100**	**1,200**	<330	**7,800**	<330	<330	**730**
Volatiles, VOCs ug/Kg																						
Acetone (I)	67-64-1	NA	15,000	34,000	1.1E+8 (C)	1.1E+8 (C)	1.3E+8	3.9E+11	2.3E+7	42,000	1.1E+8 (C)	1.7E+11	7.3E+7		<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000
Acrylonitrile (I)	107-13-1	NA	100 (M); 52	100 (M); 40	2.8E+5	6,600	5,000	4.6E+7	16,000	220	35,000	5.8E+7	74,000		<100	<100	<100	<100	<100	<100	<100	<100
Benzene (I)	71-43-2	NA	100	4,000 (X)	2.2E+5	1,600	13,000	3.8E+8	1.8E+5	100	8,400	4.7E+8	4.0E+5 (C)		<50	<50	<50	<50	<50	<50	<50	<50
Bromobenzene (I)	108-86-1	NA	550	NA	3.6E+5	3.1E+5	4.5E+5	5.3E+8	5.4E+5	1,500	5.8E+5	2.4E+8	7.6E+5 (C)		<100	<100	<100	<100	<100	<100	<100	<100
Bromodichloromethane	75-27-4	NA	1,600 (W)	ID	2.8E+5	1,200	9,100	8.4E+7	1.1E+5	1,600 (W)	6,400	1.1E+8	4.9E+5		<100	<100	<100	<100	<100	<100	<100	<100
Bromoform	75-25-2	NA	1,600 (W)	ID	8.7E+5 (C)	1.5E+5	9.0E+5	2.8E+9	8.2E+5	1,600 (W)	7.7E+5	3.6E+9	8.7E+5 (C)		<120	<110	<110	<110	<120	<140	<120	<130
Bromomethane	74-83-9	NA	200	700	1.4E+6	860	11,000	3.3E+8	3.2E+5	580	1,600	1.5E+8	1.0E+6		<200	<200	<200	<200	<200	<200	<200	<200
2-Butanone (MEK) (I)	78-93-3	NA	2.6E+5	44,000	2.7E+7 (C)	2.7E+7 (C)	2.9E+7	6.7E+10	2.7E+7 (C,DD)	7.6E+5	2.7E+7 (C)	2.9E+10	2.7E+7 (C,DD)		<750	<750	<750	<750	<750	<750	<750	<750
n-Butylbenzene	104-51-8	NA	1,600	ID	1.2E+5	ID	ID	2.0E+9	2.5E+6	4,600	ID	8.8E+8	8.0E+6		<50	<50	<50	<50	<50	<50	<50	<50
sec-Butylbenzene	135-98-8	NA	1,600	ID	88,000	ID	ID	4.0E+8	2.5E+6	4,600	ID	1.8E+8	8.0E+6		<50	<50	<50	<50	<50	<50	<50	<50
tert-Butylbenzene (I)	98-06-6	NA	1,600	ID	1.8E+5	ID	ID	6.7E+8	2.5E+6	4,600	ID	2.9E+8	8.0E+6		<50	<50	<50	<50	<50	<50	<50	<50
Carbon disulfide (I,R)	75-15-0	NA	16,000	ID	2.8E+5 (C)	76,000	1.3E+6	4.7E+10	2.8E+5 (C,DD)	46,000	1.4E+5	2.1E+10	2.8E+5 (C,DD)		<250	<250	<250	<250	<250	<250	<250	<250
Carbon tetrachloride	56-23-5	NA	100	900 (X)	92,000	190	3,500	1.3E+8	96,000	100	990	1.7E+8	3.9E+5 (C)		<50	<50	<50	<50	<50	<50	<50	<50
Chlorobenzene (I)	108-90-7	NA	2,000	500	2.6E+5 (C)	1.2E+5	7.7E+5	4.7E+9	2.6E+5 (C)	2,000	2.2E+5	2.1E+9	2.6E+5 (C)		<50	<50	<50	<50	<50	<50	<50	<50
Chloroethane	75-00-3	NA	8,600	22,000 (X)	9.5E+5 (C)	9.5E+5 (C)	3.0E+7	6.7E+11	9.5E+5 (C)	34,000	9.5E+5 (C)	2.9E+11	9.5E+5 (C)		<250	<250	<250	<250	<250	<250	<250	<250
Chloroform	67-66-3	NA	1,600 (W)	7,000	1.5E+6 (C)	7,200	45,000	1.3E+9	1.2E+6	1,600 (W)	38,000	1.6E+9	1.5E+6 (C)		<50	<50	<50	<50	<50	<50	<50	<50
Chloromethane (I)	74-87-3	NA	5,200	ID	1.1E+6 (C)	2,300	40,000	4.9E+9	1.1E+6 (C)	22,000	10,000	2.6E+9	1.1E+6 (C)		<250	<250	<250	<250	<250	<250	<250	<250
o-Chlorotoluene (I)	95-49-8	NA	3,300	ID	5.0E+5 (C)	2.7E+5	1.2E+6	4.7E+9	5.0E+5 (C)	9,300	5.0E+5 (C)	2.1E+9	5.0E+5 (C)		<50	<50	<50	<50	<50	<50	<50	<50

Table 1, Summary of Soil Analytical Results
400 Johnson Street
Saginaw, Michigan
AKT Peerless Project No.7444s-2-20

Guidesheet Number →		#10	#11	#12	#13	#14	#15	#18	#19	#21	#22	#26	#27								
Parameters*	**Chemical Abstract Service Number**	**Statewide Default Background Levels**	**Residential Drinking Water Protection Criteria and RBSLs**	**Groundwater Surface Water Interface Protection Criteria & RBSLs**	**Groundwater Contact Protection Criteria & RBSLs**	**Residential Soil Volatilization to Indoor Air Inhalation Criteria and RBSLs**	**Residential Infinite Source Volatile Soil Inhalation Criteria (VSIC) and RBSLs**	**Residential Particulate Soil Inhalation Criteria and RBSLs**	**Residential Direct Contact Criteria and RBSLs**	**Non-residential Drinking Water Protection Criteria & RBSLs**	**Non-Residential Soil Volatilization to Indoor Air Inhalation Criteria and RBSLs**	**Non-Residential Particulate Soil Inhalation Criteria and RBSLs**	**Non-Residential Direct Contact Criteria and RBSLs**	Sample Location	B-1	B-2	DUP-1 (B-2)	B-3	B-4	B-5	B-6	B-7
**(Refer to detailed laboratory report for method reference data)*														Collection Date	1/11/2012	1/11/2012	1/11/2012	1/11/2012	1/11/2012	1/11/2012	1/11/2012	1/11/2012
														Depth	1-3'	2-4'	2-4'	2-4'	2-4'	6-8'	6-8'	1-2'
Dibromochloromethane	124-48-1	NA	1,600 (W)	ID	3.6E+5	3,900	24,000	1.3E+8	1.1E+5	1,600 (W)	21,000	1.6E+8	5.0E+5		<100	<100	<100	<100	<100	<100	<100	<100
Dibromochloropropane	96-12-8	NA	10 (M); 4.0	ID	1,200 (C)	1,200 (C)	13,000	1.3E+7	1,200 (C)	10 (M); 4.0	1,200 (C)	5.9E+6	1,200 (C)		<10	<10	<10	<10	<10	<10	<10	<10
Dibromomethane	74-95-3	NA	1,600	NA	2.0E+6 (C)	ID	ID	ID	2.0E+6 (C)	4,600	ID	ID	2.0E+6 (C)		<250	<250	<250	<250	<250	<250	<250	<250
1,2-Dichlorobenzene	95-50-1	NA	14,000	280	2.1E+5 (C)	2.1E+5 (C)	3.9E+7	1.0E+11	2.1E+5 (C)	14,000	2.1E+5 (C)	4.4E+10	2.1E+5 (C)		<100	<100	<100	<100	<100	<100	<100	<100
1,3-Dichlorobenzene	541-73-1	NA	170	680	51,000	26,000	79,000	2.0E+8	1.7E+5 (C)	480	48,000	8.8E+7	1.7E+5 (C)		<100	<100	<100	<100	<100	<100	<100	<100
1,4-Dichlorobenzene	106-46-7	NA	1,700	360	1.4E+5	19,000	77,000	4.5E+8	4.0E+5	1,700	1.0E+5	5.7E+8	1.9E+6		<100	<100	<100	<100	<100	<100	<100	<100
Dichlorodifluoromethane	75-71-8	NA	95,000	ID	1.0E+6 (C)	9.0E+5	5.3E+7	3.3E+12	1.0E+6 (C)	2.7E+5	1.7E+6	1.5E+12	1.0E+6 (C)		<250	<250	<250	<250	<250	<250	<250	<250
1,1-Dichloroethane	75-34-3	NA	18,000	15,000	8.9E+5 (C)	2.3E+5	2.1E+6	3.3E+10	8.9E+5 (C)	50,000	4.3E+5	1.5E+10	8.9E+5 (C)		<50	<50	<50	<50	<50	<50	<50	<50
1,2-Dichloroethane (I)	107-06-2	NA	100	7,200 (X)	3.8E+5	2,100	6,200	1.2E+8	91,000	100	11,000	1.5E+8	4.2E+5		<50	<50	<50	<50	<50	<50	<50	<50
cis-1,2-Dichloroethylene	156-59-2	NA	1,400	12,000	6.4E+5 (C)	22,000	1.8E+5	2.3E+9	6.4E+5 (C)	1,400	41,000	1.0E+9	6.4E+5 (C)		<50	<50	<50	<50	<50	<50	<50	<50
trans-1,2-Dichloroethylene	156-60-5	NA	2,000	30,000 (X)	1.4E+6 (C)	23,000	2.8E+5	4.7E+9	1.4E+6 (C)	2,000	43,000	2.1E+9	1.4E+6 (C)		<50	<50	<50	<50	<50	<50	<50	<50
1,1-Dichloroethylene (I)	75-35-4	NA	140	2,600	2.2E+5	62	1,100	6.2E+7	2.0E+5	140	330	7.8E+7	5.7E+5 (C)		<50	<50	<50	<50	<50	<50	<50	<50
1,2-Dichloropropane (I)	78-87-5	NA	100	4,600 (X)	3.2E+5	4,000	25,000	2.7E+8	1.4E+5	100	7,400	1.2E+8	5.5E+5 (C)		<50	<50	<50	<50	<50	<50	<50	<50
Ethylbenzene (I)	100-41-4	NA	1,500	360	1.4E+5 (C)	87,000	7.2E+5	1.0E+10	1.4E+5 (C)	1,500	1.4E+5 (C)	1.3E+10	1.4E+5 (C)		<50	<50	<50	<50	<50	<50	<50	<50
Ethylene dibromide	106-93-4	NA	20 (M); 1.0	110 (X)	500	670	1,700	1.4E+7	92	20 (M); 1.0	3,600	1.8E+7	430		<20	<20	<20	<20	<20	<20	<20	<20
2-Hexanone	591-78-6	NA	20,000	ID	2.5E+6 (C)	9.9E+5	1.1E+6	2.7E+9	2.5E+6 (C)	58,000	1.8E+6	1.2E+9	2.5E+6 (C)		<2,500	<2,500	<2,500	<2,500	<2,500	<2,500	<2,500	<2,500
Isopropyl benzene	98-82-8	NA	91,000	3,200	3.9E+5 (C)	3.9E+5 (C)	1.7E+6	5.8E+9	3.9E+5 (C)	2.6E+5	3.9E+5 (C)	2.6E+9	3.9E+5 (C)		<250	<250	<250	<250	<250	<250	<250	<250
4-Methyl-2-pentanone (MIBK) (I)	108-10-1	NA	36,000	ID	2.7E+6 (C)	2.7E+6 (C)	4.5E+7	1.4E+11	2.7E+6 (C)	1.0E+5	2.7E+6 (C)	6.0E+10	2.7E+6 (C)		<2,500	<2,500	<2,500	<2,500	<2,500	<2,500	<2,500	<2,500
Methylene chloride	75-09-2	NA	100	30,000 (X)	2.3E+6 (C)	45,000	2.1E+5	6.6E+9	1.3E+6	100	2.4E+5	8.3E+9	2.3E+6 (C)		<100	<100	<100	<100	<100	<100	<100	<100
2-Methylnaphthalene	91-57-6	NA	57,000	4,200	5.5E+6	2.7E+6	1.5E+6	6.7E+8	8.1E+6	1.7E+5	4.9E+6	2.9E+8	2.6E+7		<330	<330	<330	<330	**550**	<330	<330	<330
Methyl-tert-butyl ether (MTBE)	1634-04-4	NA	800	1.4E+5 (X)	5.9E+6 (C)	5.9E+6 (C)	2.5E+7	2.0E+11	1.5E+6	800	5.9E+6 (C)	8.8E+10	5.9E+6 (C)		<250	<250	<250	<250	<250	<250	<250	<250
Naphthalene	91-20-3	NA	35,000	730	2.1E+6	2.5E+5	3.0E+5	2.0E+8	1.6E+7	1.0E+5	4.7E+5	8.8E+7	5.2E+7		<330	<330	<330	<330	<360	<330	<330	<330
n-Propylbenzene (I)	103-65-1	NA	1,600	ID	3.0E+5	ID	ID	1.3E+9	2.5E+6	4,600	ID	5.9E+8	8.0E+6		<100	<100	<100	<100	<100	<100	<100	<100
Styrene	100-42-5	NA	2,700	2,100 (X)	2.7E+5	2.5E+5	9.7E+5	5.5E+9	4.0E+5	2,700	5.2E+5 (C)	6.9E+9	5.2E+5 (C)		<50	<50	<50	<50	<50	<50	<50	<50
1,1,1,2-Tetrachloroethane	630-20-6	NA	1,500	ID	4.4E+5 (C)	6,200	36,000	4.2E+8	4.4E+5 (C)	6,400	33,000	5.3E+8	4.4E+5 (C)		<100	<100	<100	<100	<100	<100	<100	<100
1,1,2,2-Tetrachloroethane	79-34-5	NA	170	1,600 (X)	94,000	4,300	10,000	5.4E+7	53,000	700	23,000	6.8E+7	2.4E+5		<50	<50	<50	<50	<50	<50	<50	<50
Tetrachloroethylene	127-18-4	NA	100	1,200 (X)	88,000 (C)	11,000	1.8E+5	5.4E+9	88,000 (C)	100	60,000	6.8E+9	88,000 (C)		<50	<50	<50	<50	<50	<50	<50	<50
Toluene (I)	108-88-3	NA	16,000	5,400	2.5E+5 (C)	2.5E+5 (C)	2.8E+6	2.7E+10	2.5E+5 (C)	16,000	2.5E+5 (C)	1.2E+10	2.5E+5 (C)		<50	<50	<50	<50	<50	<50	<50	<50
1,2,4-Trichlorobenzene	120-82-1	NA	4,200	5,900 (X)	1.1E+6 (C)	1.1E+6 (C)	2.8E+7	2.5E+10	9.9E+5 (DD)	4,200	1.1E+6 (C)	1.1E+10	1.1E+6 (C,DD)		<330	<330	<330	<330	<330	<330	<330	<330
1,1,1-Trichloroethane	71-55-6	NA	4,000	1,800	4.6E+5 (C)	2.5E+5	3.8E+6	6.7E+10	4.6E+5 (C)	4,000	4.6E+5	2.9E+10	4.6E+5 (C)		<50	<50	<50	<50	<50	<50	<50	<50
1,1,2-Trichloroethane	79-00-5	NA	100	6,600 (X)	4.2E+5	4,600	17,000	1.9E+8	1.8E+5	100	24,000	2.5E+8	8.4E+5		<50	<50	<50	<50	<50	<50	<50	<50
Trichloroethylene	79-01-6	NA	100	4,000 (X)	4.4E+5	7,100	78,000	1.8E+9	5.0E+5 (C,DD)	100	37,000	2.3E+9	5.0E+5 (C,DD)		<50	<50	<50	<50	<50	<50	<50	<50
Trichlorofluoromethane	75-69-4	NA	52,000	NA	5.6E+5 (C)	5.6E+5 (C)	9.2E+7	3.8E+12	5.6E+5 (C)	1.5E+5	5.6E+5 (C)	1.7E+12	5.6E+5 (C)		<100	<100	<100	<100	<100	<100	<100	<100
1,2,3-Trichloropropane	96-18-4	NA	840	NA	8.3E+5 (C)	4,000	9,200	2.0E+7	8.3E+5 (C)	2,400	7,500	8.8E+6	8.3E+5 (C)		<100	<100	<100	<100	<100	<100	<100	<100
1,2,3-Trimethylbenzene	526-73-8	NA	1,800	570	94,000 (C)	94,000 (C)	1.6E+7	8.2E+10	94,000 (C)	1,800	94,000 (C)	3.6E+10	94,000 (C)		<100	<100	<100	<100	<100	<100	<100	<100
1,2,4-Trimethylbenzene (I)	95-63-6	NA	2,100	570	1.1E+5 (C)	1.1E+5 (C)	2.1E+7	8.2E+10	1.1E+5 (C)	2,100	1.1E+5 (C)	3.6E+10	1.1E+5 (C)		<100	<100	<100	<100	<100	<100	<100	<100
1,3,5-Trimethylbenzene (I)	108-67-8	NA	1,800	1,100	94,000 (C)	94,000 (C)	1.6E+7	8.2E+10	94,000 (C)	1,800	94,000 (C)	3.6E+10	94,000 (C)		<100	<100	<100	<100	<100	<100	<100	<100
Vinyl chloride	75-01-4	NA	40	260 (X)	20,000	270	4,200	3.5E+8	3,800	40	2,800	8.9E+8	34,000		<40	<40	<40	<40	<40	<40	<40	<40
Xylenes (I)	1330-20-7	NA	5,600	820	1.5E+5 (C)	1.5E+5 (C)	4.6E+7	2.9E+11	1.5E+5 (C)	5,600	1.5E+5 (C)	1.3E+11	1.5E+5 (C)		<150	<150	<150	<150	<150	<150	<150	<150

Table 2, Summary of Groundwater Analytical Results
400 Johnson Street
Saginaw, Michigan
AKT Peerless Project No.7444s-2-20

Guidesheet Number →		#1	#2	#3	#4	#5	#6	#7	#8	#9			
Parameters*	**Chemical Abstract Service Number**	**Residential Drinking Water Criteria & RBSLs**	**Non-residential Drinking Water Criteria & RBSLs**	**Groundwater Surface Water Interface Criteria & RBSLs**	**Residential Groundwater Volatilization to Indoor Air Inhalation Criteria & RBSLs**	**Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria & RBSLs**	**Groundwater Contact Criteria & RBSLs**	**Water Solubility**	**Flammability and Explosivity Screening Level**	**Acute Inhalation Screening Level**	Sample Location	B-7 TMW	B-2 TMW
											Collection Date	1/11/2012	1/11/2012
**(Refer to detailed laboratory report for method reference data)*											Depth	4-9'	5-10'
Metals ug/L													
Cadmium (B)	7440-43-9	5.0 (A)	5.0 (A)	(G,X)	NLV	NLV	1.9E+5	NA	ID	ID		<1.0	<1.0
Chromium, Total	7440-47-3	100 (A)	100 (A)	11	NLV	NLV	4.6E+5	NA	ID	ID		<10	<10
Lead (B)	7439-92-1	**4.0 (L)**	**4.0 (L)**	28 (G,X)	NLV	NLV	ID	NA	ID	ID		**5.3**	**14**
Semivolatiles, PNAs ug/L													
Acenaphthene	83-32-9	1,300	3,800	38	4,200 (S)	4,200 (S)	4,200 (S)	4,240	ID	ID		<5.0	<5.0
Acenaphthylene	208-96-8	52	150	ID	3,900 (S)	3,900 (S)	3,900 (S)	3,930	ID	ID		<5.0	<5.0
Anthracene	120-12-7	43 (S)	43 (S)	ID	43 (S)	43 (S)	43 (S)	43.4	ID	ID		<5.0	<5.0
Benzo(a)anthracene (Q)	56-55-3	2.1	8.5	ID	NLV	NLV	9.4 (S,AA)	9.4	ID	ID		<1.0	<1.0
Benzo(a)pyrene (Q)	50-32-8	5.0 (A)	5.0 (A)	ID	NLV	NLV	1.0 (M,AA); 0.64	1.62	ID	ID		<1.0	<1.0
Benzo(b)fluoranthene (Q)	205-99-2	1.5 (S, AA)	1.5 (S, AA)	ID	ID	ID	1.5 (S,AA)	1.5	ID	ID		<1.0	<1.0
Benzo(g,h,i)perylene	191-24-2	1.0 (M); 0.26 (S)	1.0 (M); 0.26 (S)	ID	NLV	NLV	1.0 (M,AA); 0.26 (S)	0.26	ID	ID		<1.0	<1.0
Benzo(k)fluoranthene (Q)	207-08-9	1.0 (M); 0.8 (S)	1.0 (M); 0.8 (S)	NA	NLV	NLV	1.0 (M,AA); 0.8 (S)	0.8	ID	ID		<1.0	<1.0
Chrysene (Q)	218-01-9	1.6 (S)	1.6 (S)	ID	ID	ID	1.6 (S,AA)	1.6	ID	ID		<1.0	<1.0
Dibenzo(a,h)anthracene (Q)	53-70-3	2.0 (M); 0.21	2.0 (M); 0.85	ID	NLV	NLV	2.0 (M,AA); 0.31	2.49	ID	ID		<2.0	<2.0
Fluoranthene	206-44-0	210 (S)	210 (S)	1.6	210 (S)	210 (S)	210 (S)	206	ID	ID		<1.0	<1.0
Fluorene	86-73-7	880	2,000 (S)	12	2,000 (S)	2,000 (S)	2,000 (S)	1,980	ID	ID		<5.0	<5.0
Indeno(1,2,3-cd)pyrene (Q)	193-39-5	2.0 (M); 0.022 (S)	2.0 (M); 0.022 (S)	ID	NLV	NLV	2.0 (M, AA); 0.022 (S)	0.022	ID	ID		<2.0	<2.0
2-Methylnaphthalene	91-57-6	260	750	19	25,000 (S)	25,000 (S)	25,000 (S)	24,600	ID	ID		<5.0	<5.0
Phenanthrene	85-01-8	52	150	2.0 (M); 1.4	1,000 (S)	1,000 (S)	1,000 (S)	1,000	ID	ID		<2.0	<2.0
Pyrene	129-00-0	140 (S)	140 (S)	ID	140 (S)	140 (S)	140 (S)	135	ID	ID		<5.0	<5.0
Volatiles, VOCs ug/L													
Acetone (I)	67-64-1	730	2,100	1,700	1.0E+9 (D,S)	1.0E+9 (D,S)	3.1E+7	1.0E+9	1.5E+7	1.0E+9 (D)		<50	<50
Acrylonitrile (I)	107-13-1	2.6	11	2.0 (M); 1.2	34,000	1.9E+5	14,000	7.50E+7	6.4E+6	ID		<2.0	<2.0
Benzene (I)	71-43-2	5.0 (A)	5.0 (A)	200 (X)	5,600	35,000	11,000	1.75E+6	68,000	67,000		<1.0	<1.0
Bromobenzene (I)	108-86-1	18	50	NA	1.8E+5	3.9E+5	12,000	4.13E+5	ID	ID		<1.0	<1.0
Bromodichloromethane	75-27-4	80 (A,W)	80 (A,W)	ID	4,800	37,000	14,000	6.74E+6	ID	ID		<1.0	<1.0
Bromoform	75-25-2	80 (A,W)	80 (A,W)	ID	4.7E+5	3.1E+6 (S)	1.4E+5	3.10E+6	ID	ID		<1.0	<1.0
Bromomethane	74-83-9	10	29	35	4,000	9,000	70,000	1.45E+7	ID	ID		<5.0	<5.0
2-Butanone (MEK) (I)	78-93-3	13,000	38,000	2,200	2.4E+8 (S)	2.4E+8 (S)	2.4E+8 (S)	2.40E+8	ID	2.4E+8 (S)		<25	<25

Table 2, Summary of Groundwater Analytical Results
400 Johnson Street
Saginaw, Michigan
AKT Peerless Project No.7444s-2-20

Guidesheet Number →		#1	#2	#3	#4	#5	#6	#7	#8	#9			
Parameters*	**Chemical Abstract Service Number**	**Residential Drinking Water Criteria & RBSLs**	**Non-residential Drinking Water Criteria & RBSLs**	**Groundwater Surface Water Interface Criteria & RBSLs**	**Residential Groundwater Volatilization to Indoor Air Inhalation Criteria & RBSLs**	**Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria & RBSLs**	**Groundwater Contact Criteria & RBSLs**	**Water Solubility**	**Flammability and Explosivity Screening Level**	**Acute Inhalation Screening Level**	Sample Location	B-7 TMW	B-2 TMW
											Collection Date	1/11/2012	1/11/2012
**(Refer to detailed laboratory report for method reference data)*											Depth	4-9'	5-10'
n-Butylbenzene	104-51-8	80	230	ID	ID	ID	5,900	NA	ID	ID		<1.0	<1.0
sec-Butylbenzene	135-98-8	80	230	ID	ID	ID	4,400	NA	ID	ID		<1.0	<1.0
tert-Butylbenzene (I)	98-06-6	80	230	ID	ID	ID	8,900	NA	ID	ID		<1.0	<1.0
Carbon disulfide (I,R)	75-15-0	800	2,300	ID	2.5E+5	5.5E+5	1.2E+6 (S)	1.19E+6	13,000	ID		<5.0	<5.0
Carbon tetrachloride	56-23-5	5.0 (A)	5.0 (A)	45 (X)	370	2,400	4,600	7.93E+5	ID	96,000		<1.0	<1.0
Chlorobenzene (I)	108-90-7	100 (A)	100 (A)	25	2.1E+5	4.7E+5 (S)	86,000	4.72E+5	1.6E+5	ID		<1.0	<1.0
Chloroethane	75-00-3	430	1,700	1,100 (X)	5.7E+6 (S)	5.7E+6 (S)	4.4E+5	5.74E+6	1.1E+5	ID		<5.0	<5.0
Chloroform	67-66-3	80 (A,W)	80 (A,W)	350	28,000	1.8E+5	1.5E+5	7.92E+6	ID	ID		<1.0	<1.0
Chloromethane (I)	74-87-3	260	1,100	ID	8,600	45,000	4.9E+5	6.34E+6	36,000	2.1E+5		<5.0	<5.0
o-Chlorotoluene (I)	95-49-8	150	420	ID	2.2E+5	3.7E+5 (S)	44,000	3.73E+5	ID	ID		<5.0	<5.0
Dibromochloromethane	124-48-1	80 (A,W)	80 (A,W)	ID	14,000	1.1E+5	18,000	2.60E+6	ID	ID		<5.0	<5.0
Dibromochloropropane	96-12-8	0.2 (A)	0.2 (A)	ID	1,200 (S)	1,200 (S)	390	1,230	NA	ID		<1.0	<1.0
Dibromomethane	74-95-3	80	230	NA	ID	ID	5.3E+5	1.10E+7	ID	ID		<5.0	<5.0
1,2-Dichlorobenzene	95-50-1	600 (A)	600 (A)	13	1.6E+5 (S)	1.6E+5 (S)	1.6E+5 (S)	1.56E+5	NA	1.6E+5 (S)		<1.0	<1.0
1,3-Dichlorobenzene	541-73-1	6.6	19	28	18,000	41,000	2,000	1.11E+5	ID	ID		<1.0	<1.0
1,4-Dichlorobenzene	106-46-7	75 (A)	75 (A)	17	16,000	74,000 (S)	6,400	73,800	NA	ID		<1.0	<1.0
Dichlorodifluoromethane	75-71-8	1,700	4,800	ID	2.2E+5	3.0E+5 (S)	3.0E+5 (S)	3.00E+5	ID	ID		<5.0	<5.0
1,1-Dichloroethane	75-34-3	880	2,500	740	1.0E+6	2.3E+6	2.4E+6	5.06E+6	3.8E+5	ID		<1.0	<1.0
1,2-Dichloroethane (I)	107-06-2	5.0 (A)	5.0 (A)	360 (X)	9,600	59,000	19,000	8.52E+6	2.5E+6	ID		<1.0	<1.0
cis-1,2-Dichloroethylene	156-59-2	70 (A)	70 (A)	620	93,000	2.1E+5	2.0E+5	3.50E+6	5.3E+5	ID		<1.0	<1.0
trans-1,2-Dichloroethylene	156-60-5	100 (A)	100 (A)	1,500 (X)	85,000	2.0E+5	2.2E+5	6.30E+6	2.3E+5	ID		<1.0	<1.0
1,1-Dichloroethylene (I)	75-35-4	7.0 (A)	7.0 (A)	130	200	1,300	11,000	2.25E+6	97,000	1.4E+5		<1.0	<1.0
1,2-Dichloropropane (I)	78-87-5	5.0 (A)	5.0 (A)	230 (X)	16,000	36,000	16,000	2.80E+6	5.5E+5	2.8E+6 (S)		<1.0	<1.0
Ethylbenzene (I)	100-41-4	74 (E)	74 (E)	18	1.1E+5	1.7E+5 (S)	1.7E+5 (S)	1.69E+5	43,000	1.7E+5 (S)		<1.0	<1.0
Ethylene dibromide	106-93-4	0.05 (A)	0.05 (A)	5.7 (X)	2,400	15,000	25	4.20E+6	ID	ID		<1.0	<1.0
2-Hexanone	591-78-6	1,000	2,900	ID	4.2E+6	8.7E+6	5.2E+6	1.60E+7	NA	ID		<50	<50
Isopropyl benzene	98-82-8	800	2,300	28	56,000 (S)	56,000 (S)	56,000 (S)	56,000	29,000	ID		<5.0	<5.0
4-Methyl-2-pentanone (MIBK) (I)	108-10-1	1,800	5,200	ID	2.0E+7 (S)	2.0E+7 (S)	1.3E+7	2.00E+7	ID	2.0E+7 (S)		<50	<50
Methylene chloride	75-09-2	5.0 (A)	5.0 (A)	1,500 (X)	2.2E+5	1.4E+6	2.2E+5	1.70E+7	ID	ID		<5.0	<5.0
2-Methylnaphthalene	91-57-6	260	750	19	25,000 (S)	25,000 (S)	25,000 (S)	24,600	ID	ID		<5.0	<5.0

Table 2, Summary of Groundwater Analytical Results
400 Johnson Street
Saginaw, Michigan
AKT Peerless Project No.7444s-2-20

Guidesheet Number →		#1	#2	#3	#4	#5	#6	#7	#8	#9			
Parameters*	**Chemical Abstract Service Number**	**Residential Drinking Water Criteria & RBSLs**	**Non-residential Drinking Water Criteria & RBSLs**	**Groundwater Surface Water Interface Criteria & RBSLs**	**Residential Groundwater Volatilization to Indoor Air Inhalation Criteria & RBSLs**	**Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria & RBSLs**	**Groundwater Contact Criteria & RBSLs**	**Water Solubility**	**Flammability and Explosivity Screening Level**	**Acute Inhalation Screening Level**	Sample Location	B-7 TMW	B-2 TMW
											Collection Date	1/11/2012	1/11/2012
**(Refer to detailed laboratory report for method reference data)*											Depth	4-9'	5-10'
Methyl-tert-butyl ether (MTBE)	1634-04-4	40 (E)	40 (E)	7,100 (X)	4.7E+7 (S)	4.7E+7 (S)	6.1E+5	4.68E+7	ID	ID		<5.0	<5.0
Naphthalene	91-20-3	520	1,500	11	31,000 (S)	31,000 (S)	31,000 (S)	31,000	NA	31,000 (S)		<5.0	<5.0
n-Propylbenzene (I)	103-65-1	80	230	ID	ID	ID	15,000	NA	ID	ID		<1.0	<1.0
Styrene	100-42-5	100 (A)	100 (A)	80 (X)	1.7E+5	3.1E+5 (S)	9,700	3.10E+5	1.4E+5	3.1E+5 (S)		<1.0	<1.0
1,1,1,2-Tetrachloroethane	630-20-6	77	320	ID	15,000	96,000	30,000	1.10E+6	ID	ID		<1.0	<1.0
1,1,2,2-Tetrachloroethane	79-34-5	8.5	35	78 (X)	12,000	77,000	4,700	2.97E+6	ID	ID		<1.0	<1.0
Tetrachloroethylene	127-18-4	5.0 (A)	5.0 (A)	60 (X)	25,000	1.7E+5	12,000	2.0E+5	ID	2.0E+5 (S)		<1.0	<1.0
Toluene (I)	108-88-3	790 (E)	790 (E)	270	5.3E+5 (S)	5.3E+5 (S)	5.3E+5 (S)	5.26E+5	61,000	ID		<1.0	<1.0
1,2,4-Trichlorobenzene	120-82-1	70 (A)	70 (A)	99 (X)	3.0E+5 (S)	3.0E+5 (S)	19,000	3.00E+5	NA	3.0E+5 (S)		<5.0	<5.0
1,1,1-Trichloroethane	71-55-6	200 (A)	200 (A)	89	6.6E+5	1.3E+6 (S)	1.3E+6 (S)	1.33E+6	ID	1.3E+6 (S)		<1.0	<1.0
1,1,2-Trichloroethane	79-00-5	5.0 (A)	5.0 (A)	330 (X)	17,000	1.1E+5	21,000	4.42E+6	NA	ID		<1.0	<1.0
Trichloroethylene	79-01-6	5.0 (A)	5.0 (A)	200 (X)	15,000	97,000	22,000	1.10E+6	ID	1.1E+6 (S)		<1.0	<1.0
Trichlorofluoromethane	75-69-4	2,600	7,300	NA	1.1E+6 (S)	1.1E+6 (S)	1.1E+6 (S)	1.10E+6	ID	1.1E+6 (S)		<1.0	<1.0
1,2,3-Trichloropropane	96-18-4	42	120	NA	8,300	18,000	84,000	1.90E+6	NA	ID		<1.0	<1.0
1,2,3-Trimethylbenzene	526-73-8	63 (E)	63 (E)	17	56,000 (S)	56,000 (S)	56,000 (S)	55,890	56,000 (S)	ID		<1.0	<1.0
1,2,4-Trimethylbenzene (I)	95-63-6	63 (E)	63 (E)	17	56,000 (S)	56,000 (S)	56,000 (S)	55,890	56,000 (S)	ID		<1.0	<1.0
1,3,5-Trimethylbenzene (I)	108-67-8	72 (E)	72 (E)	45	61,000 (S)	61,000 (S)	61,000 (S)	61,150	ID	ID		<1.0	<1.0
Vinyl chloride	75-01-4	2.0 (A)	2.0 (A)	13 (X)	1,100	13,000	1,000	2.76E+6	33,000	ID		<1.0	<1.0
Xylenes (I)	1330-20-7	280 (E)	280 (E)	41	1.9E+5 (S)	1.9E+5 (S)	1.9E+5 (S)	1.86E+5	70,000	1.9E+5 (S)		<3.0	<3.0

SUMMARY TABLE 1
FLORENTINE INN
PEERLESS PROJECT #77636
ANALYTICAL RESULTS - ALL CONSTITUENTS NOT LISTED WERE NOT DETECTED AT OR ABOVE THEIR RESPECTIVE METHOD DETECTION LIMITS

PARAMETER	SOIL (ug/kg ppb) MDNR DETECT LIMITS	ACTUL DETECT LIMITS	20X DWV/ DEFAULT*	SS #01 SB-1	SS #02 SB-2	SS #03 SB-2	SS #04 SB-3	SS #05 SB-4	SS #06 SB-5	SS #07 SB-6	SS #08 SB-7	SS #9 SB-8
VOLATILE ORGANIC COMPOUNDS												
ETHYLBENZENE	10	10	1,500	BDL	BDL	BDL	**590**	BDL	BDL	BDL	BDL	BDL
XYLENES (TOTAL)	30	30	5,600	BDL	BDL	BDL	**1,300**	BDL	BDL	BDL	BDL	BDL
POLYNUCLEAR AROMATIC HYDROCARBON COMPOUNDS												
ANTHRACENE	330	330	150,000	BDL	BDL	BDL	BDL	1,200	BDL	BDL	BDL	BDL
FLUORENE	330	330	18,000	BDL	BDL	BDL	BDL	**440**	BDL	BDL	BDL	BDL
NAPHTHALENE	330	330	5,200	BDL	BDL	BDL	**900**	BDL	BDL	BDL	BDL	BDL
PHENANTHRENE	330	330	520	BDL	BDL	BDL	BDL	**1,200**	BDL	BDL	BDL	BDL
MICHIGAN TEN METALS												
BARIUM (A)	1,000	1,000	40,000/75,000	BDL	BDL	BDL	BDL	BDL	BDL	**86,000**	**55,000**	**47,000**
CADMIUM (A)	50	50	100/1,200	BDL	BDL	BDL	BDL	BDL	BDL	BDL	**75**	BDL
CHROMIUM III (TOTAL) (A)	2,500	2,500	2,500/18,000	BDL	BDL	BDL	BDL	BDL	BDL	**17,000**	**12,000**	**11,000**
COPPER	1,000	1,000	20,000/32,000	BDL	BDL	BDL	BDL	BDL	BDL	**14,000**	**22,000**	**18,000**
LEAD (A)	1,000	1,000	1,000/21,000	**4,200**	**2,300**	**3,000**	**3,300**	**2,200**	**3,100**	BDL	**3,400**	**4,300**
SELENIUM (A)	500	100	1,000/410	BDL	BDL	BDL	BDL	BDL	BDL	**675**	**675**	325
ZINC (A)	1,000	1,000	48,000/47,000	BDL	BDL	BDL	BDL	BDL	BDL	**160,000**	**25,000**	**34,000**

* - 20X DRINKING WATER VALUE/MDNR TYPE A DEFAULT VALUES
BOLDED VALUES INDICATE CONCENTRATIONS ABOVE METHOD DETECTION LIMIT
SHADED VALUES INDICATE CONCENTRATIONS ABOVE 201 RESIDENTIAL CRITERIA/MDNR TYPE A DEFAULT VALUES
N/T - NOT TESTED FOR THIS PARAMETER

A = BACKGROUND, AS DEFINED IN RULE 701(C), MAY BE SUBSTITUTED IF HIGHER THAN THE CLEANUP CRITERIA.

SUMMARY TABLE 1 (cont.)
FLORENTINE INN
PEERLESS PROJECT #77636
ANALYTICAL RESULTS - ALL CONSTITUENTS NOT LISTED WERE NOT DETECTED AT OR ABOVE THEIR RESPECTIVE METHOD DETECTION LIMITS

PARAMETER	SOIL (ug/kg ppb) MDNR DETECT LIMITS	ACTUL DETECT LIMITS	20X DWV/ DEFAULT*	SS #16 SB-10	SS #17 SB-11	SS #18 SB-12
VOLATILE ORGANIC COMPOUNDS						
ETHYLBENZENE	10	10	1,500	N/T	N/T	N/T
XYLENES (TOTAL)	30	30	5,600	N/T	N/T	N/T
POLYNUCLEAR AROMATIC HYDROCARBON COMPOUNDS						
ANTHRACENE	330	330	150,000	N/T	N/T	N/T
FLUORENE	330	330	18,000	N/T	N/T	N/T
NAPHTHALENE	330	330	5,200	N/T	N/T	N/T
PHENANTHRENE	330	330	520	N/T	N/T	N/T
MICHIGAN TEN METALS						
BARIUM (A)	1,000	1,000	40,000/75,000	<1,000	**73,000**	**47,000**
CADMIUM (A)	50	50	100/1,200	<50	**190**	<50
CHROMIUM III (TOTAL) (A)	2,500	2,500	2,500/18,000	**11,000**	**20,000**	**10,000**
COPPER	1,000	1,000	20,000/32,000	**7,800**	**13,000**	**4,500**
LEAD (A)	1,000	1,000	1,000/21,000	<1,000	<1,000	<1,000
SELENIUM (A)	500	100	1,000/410	<125	<125	**1,100**
ZINC (A)	1,000	1,000	48,000/47,000	**15,000**	**46,000**	**18,000**
ARSENIC (A)	100	100	1,000/5,800	**12,000**	**14,000**	**8,800**

* - 20X DRINKING WATER VALUE/MDNR TYPE A DEFAULT VALUES
BOLDED VALUES INDICATE CONCENTRATIONS ABOVE METHOD DETECTION LIMIT
SHADED VALUES INDICATE CONCENTRATIONS ABOVE 201 RESIDENTIAL CRITERIA/MDNR TYPE A DEFAULT VALUES

A = BACKGROUND, AS DEFINED IN RULE 701(C), MAY BE SUBSTITUTED IF HIGHER THAN THE CLEANUP CRITERIA.
N/T - NOT TESTED FOR THIS PARAMETER

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FOOTNOTES

FOR THE PART 201 CRITERIA/PART 213 RISK-BASED SCREENING LEVELS
RRD OPERATIONAL MEMORANDUM No. 1

(A) Criterion is the state of Michigan drinking water standard established pursuant to Section 5 of 1976 pa 399, mcl 325.1005.
(B) Background, as defined in R 299.5701(b), may be substituted if higher than the calculated cleanup criterion. Background levels may be less than criteria for some inorganic compounds.
(C) Value presented is a screening level based on the chemical-specific generic soil saturation concentration (C_{sat}) since the calculated risk-based criterion is greater than C_{sat}. Concentrations greater than C_{sat} are acceptable cleanup criteria for this pathway where a site-specific demonstration indicates that free-phase material containing a hazardous substance is not present.
(D) Calculated criterion exceeds 100 percent, hence it is reduced to 100 percent or 1.0E+9 parts per billion (ppb).
(E) Criterion is the aesthetic drinking water value, as required by Section 20120a(5) of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA).

(F) Criterion is based on adverse impacts to plant life and phytotoxicity.
(G) Groundwater surface water interface (GSI) criterion depends on the pH or water hardness, or both, of the receiving surface water. The final chronic value (FCV) for the protection of aquatic life shall be calculated based on the pH or hardness of the reciving surface water. Where water hardness exceeds 400 mg $CaCO_3$/L, use 400 mg $CaCO_3$/L for the FCV calculation. The FCV formula provides values in units of ug/L or ppb. The generic GSI criterion is the lesser of the calculated FCV, the wildlife value (WV), and the surface water human non-drinking water value (HNDV). The soil GSI protection criteria for these substances are the greater of the 20 times the GSI criterion or the GSI soil-water partition values using the GSI criteria developed with the procedure described in this footnote. (Refer to RRD Op Memo No. 1, Attachment 1, Footnotes for further information). A water hardness value for the Saginaw River provided by the MDEQ was used to calculate the GSI criteria.
(H) Valence-specific chromium data (Cr III and Cr VI) shall be compared to the corresponding valence-specific cleanup criteria. If both Cr III and Cr VI are present in groundwater, the total concentration of both cannot exceed the drinking water criterion of 100 ug/L. If analytical data are provided for total chromium only, they shall be compared to the cleanup criteria for Cr VI. Cr III soil cleanup criterion for protection of drinking water can only be used at sites where groundwater is prevented from being used as a public water supply, currently and in the future, through an approved land or resource use restriction.
(I) Hazardous substance may exhibit the characteristic of ignitability as defined in 40 C.F.R. §261.21 (revised as of July 1, 2001), which is adopted by reference in these rules and is available for inspection at the DEQ, 525 West Allegan Street, Lansing, Michigan. Copies of the regulation may be purchased, at a cost as of the time of adoption of these rules of $45, from the Superintendent of Documents, Government Printing Office, Washington DC 20401 (stock number 869-044-00155-1), or from the DEQ, Remediation and Redevelopment Division (RRD), 525 West Allegan Street, Lansing, Michigan 48933, at cost.
(J) Hazardous substance may be present in several isomer forms. Isomer-specific concentrations shall be added together for comparison to criteria.
(K) Hazardous substance may be flammable or explosive, or both.
(L) Criteria for lead are derived using a biologically based model, as allowed for under Section 20120a(10) of the NREPA, and are not calculated using the algorithms and assumptions specified in pathway-specific rules.
(M) Calculated criterion is below the analytical target detection limit, therefore, the criterion defaults to the target detection limit.
(N) The concentrations of all potential sources of nitrate-nitrogen (e.g., ammonia-N, nitrite-N, nitrate-N) in groundwater that is used as a source of drinking water shall not, when added together, exceed the nitrate drinking water criterion of 10,000 ug/L. Where leaching to groundwater is a relevant pathway, soil concentrations of all potential sources of nitrate-nitrogen shall not, when added together, exceed the nitrate drinking water protection criterion of 2.0E+5 ug/kg.
(O) The concentration of all polychlorinated and polybrominated dibenzodioxin and dibenzofuran isomers present at a facility, expressed as an equivalent concentration of 2,3,7,8-tetrachlorodibenzo-p-dioxin based upon their relative potency, shall be added together and compared to the criteria for 2,3,7,8-tetrachlorodibenzo-p-dioxin. The generic cleanup criteria for 2,3,7,8-tetrachlorodibenzo-p-dioxin are not calculated according to the algorithms presented in R 299.5714 to R 299.5726. The generic cleanup criteria are brin held at the values that the DEQ has used since August 1998, in recognition of the fact that national efforts to reassess risks posed by dioxin are not yet complete. Until these studies are complete, it is premature to select a arevised slope factor and/or reference dose for calculation of generic cleanup criteria.

(P) Amenable cyanide methods or method OIA-1677 shall be used to quantify cyanide concentrations for compliance with all groundwater criteria. Total cyanide methods or method OIA-1677 shall be used to quantify cyanide concentrations for compliance with soil criteria. Industrial-commercial direct contact criteria may not be protective of the potential for release of hydrogen cyanide gas. Additional land or resource use restrictions may be necessary to protect for the acute inhalation concerns associated with hydrogen cyanide gas.

(Q) Criteria for carcinogenic polycyclic aromatic hydrocarbons were developed using relative potential potencies to benzo(a)pyrene.
(R) Hazardous substance may exhibit the characteristic of reactivity as defined in 40 C.F.R. §261.23 (revised as of July 1, 2001), which is adopted by reference in these rules and is available for inspection at the DEQ, 525 West allegan Street, lansing, michigan. Copies of the regulation may be purchased, at a cost as of the time of adoption of these rules of $45, from the superintendent of documents, government printing office, washington, dc 20401 (stock number 869-044-00155-1), or from the dEQ, RRD, 525 West Allegan Street, Lansing, Michigan 48933. at cost.
(S) Criterion defaults to the hazardous substance-specific water solubility limit.
(T) Refer to the federal Toxic Substances Control Act (TSCA), 40 C.F.R. §761, subpart d and 40 C.F.R. §761, Subpart G, to determine the applicability of TSCA cleanup standards. Subpart d and subpart g of 40 C.F.R. §761 (July 1, 2001) are adopted by reference in these rules and are available for inspection at the DEQ, 525 West Allegan Street, Lansing, Michigan. Copies of the regulations may be purchased, at a cost as of the time of adoption of these rules of $55, from the superintendent of documents, Government Printing Office, Washington, dc 20401, or from the dEQ, RRD, 525 West Allegan Street, Lansing, Michigan 48933, at cost. Alternatives to compliance with the tsca standards listed below are possible under 40 C.F.R. §761 Subpart D. New releases may be subject to the standards identified in 40 C.F.R. §761, Subpart G. Use Part 201 soil direct contact cleanup criteria in the following table if TSCA standards are not applicable. (Refer to RRD Op Memo No. 1, Attachment 1, Footnotes for further information)

(U) Hazardous substance may exhibit the characteristic of corrosivity as defined in 40 C.F.R. §261.22 (revised as of July 1, 2001), which is adopted by reference in these rules and is available for inspection at the DEQ, 525 West allegan Street, Lansing, Michigan. Copies of the regulation may be purchased, at a cost as of the time of adoption of these rules of $45, from the Superintendent of Documents, Government Printing Office, Washington, dc 20401 (stock number 869-044-00155-1), or from the dEQ, RRD, 525 West Allegan Street. Lansing. Michigan 48933. at cost.
(V) Criterion is the aesthetic drinking water value as required by Section 20120(a)(5) of the NREPA. concentrations up to 200 ug/L may be acceptable, and still allow for drinking water use, as part of a site-specific cleanup under Section 20120a(2) of the NREPA.
(W) Concentrations of trihalomethanes in groundwater shall be added together to determine compliance with the Michigan drinking water standard of 80 ug/L. Concentrations of trihalomethanes in soil shall be added together to determine compliance with the drinking water protection criterion of 1,600 ug/kg.
(X) The GSI criterion shown in the generic cleanup criteria tables is not protective for surface water that is used as a drinking water source. For a groundwater discharge to the Great Lakes and their connecting waters or discharge in close proximity to a water supply intake in inland surface waters, the generic GSI criterion shall be the surface water human drinking water value (HDV) listed in the table in this footnote, except for those HDV indicated with an asterisk. For HDV with an asterisk, the generic GSI criterion shall be the lowest of the HDV, the WV, and the calculated FCV. see formulas in footnote (G). Soil protection criteria based on the HDV shall be as listed in the table in this footnote, except for those values with an asterisk. Soil GSI protection criteria based on the HDV shall be as listed in the table in this footnote, except for those values with an asterisk. Soil GSI protection criteria for compounds with an asterisk shall be the greater of 20 times the GSI criterion or the GSI soil-water partition values using the GSI criteria developed with the procedure described in this footnote. (Refer to RRD Op Memo No. 1, Attachment 1, Footnotes for further information)

(Y) Source size modifiers shown in the following table shall be used to determine soil inhalation criteria for ambient air when the source size is not one-half acre.
(Z) Mercury is typically measured as total mercury. The generic cleanup criteria, however, are based on data for different species of mercury. Specifically, data for elemental mercury, chemical abstract service (CAS) number 7439976, serve as the basis for the soil volatilization to indoor air criteria, groundwater volatilization to indoor air, and soil inhalation criteria. Data for methyl mercury, CAS number 22967926, serve as the basis for the GSI criterion; and data for mercuric chloride, CAS number 7487947, serve as the basis for the drinking water, groundwater contact, soil direct contact, and the groundwater protection criteria. Comparison to criteria shall be based on species-specific analytical data only if sufficient facility characterization has been conducted to rule out the presence of other species of mercury.
(AA) Comparison to these criteria may take into account an evaluation of whether the hazardous substances are adsorbed to particulates rather than dissolved in water and whether filtered groundwater samples were used to evaluate groundwater.
(BB) The state drinking water standard for asbestos is in units of fibers per milliliter of water (f/mL) longer than 10 millimicrons. Soil concentrations of asbestos are determined by polarized light microscopy.
(CC) Groundwater: The generic GSI criteria are based on the toxicity of unionized ammonia (NH3); the criteria are 29 ug/L and 53 ug/L for cold water and warm water surface water, respectively. As a result, the GSI criterion shall be compared to the percent of the total ammonia concentration in the groundwater that will become NH3 in the surface water. This percent NH3 is a function of the pH and temperature of the receiving surface water and can be estimated using the following table, taken from Emerson, et al., (Journal of the Fisheries Research Board of Canada, Volume 32(12):2382, 1975). (Refer to RRD Op Memo No. 1, Attachment 1, Footnotes for further information)
Soil: The generic soil GSI protection criteria for unionized ammonia are 580 ug/kg and 1,100 ug/kg for cold water and warm water surface water, respectively.

(DD) Hazardous substance causes developmental effects. Residential and commercial I direct contact criteria are protective of both prenatal and postnatal exposure. Industrial and commercial II, III and IV direct contact criteria are protective for a pregnant adult receptor.
(EE) The following are applicable generic GSI criteria as required by Section 20120a(15) of the NREPA. (Refer to RRD Op Memo No. 1, Attachment 1, Footnotes for further information)
(FF) The chloride GSI criterion shall be 125 mg/l when the discharge is to surface waters of the state designated as public water supply sources or 50 mg/l when the discharge is to the Great Lakes or connecting waters. Chloride GSI criteria shall not apply for surface waters of the state that are not designated as a public water supply source, however, the total dissolved solids criterion is applicable.
(GG) Risk-based criteria are not available for methane due to insufficient toxicity data. An acceptable soil gas concentration (presented for both residential and commercial/industrial land uses) was derived utilizing 25 percent of the lower explosive level for methane. This equates to 1.25 percent or 8.4E+6 ug/m3.
ID Insufficient data to develop criterion.
NA A criterion or value is not available or, in the case of background and CAS numbers, not applicable.
NLL Hazardous substance is not likely to leach under most soil conditions.
NLV Hazardous substance is not likely to volatilize under most conditions.
ug/Kg Micrograms per kilogram
ug/L Micorgrams per liter
NS Not sampled
BDL Below Laboratory Method Detection Limits

APPENDIX D

APPENDIX D

Soil Waste Characterization Laboratory Analytical Results to be provided upon completion.

APPENDIX E

TECHNICAL SPECIFICATIONS
FOR

ENVIRONMENTAL ABATEMENT AND DEMOLITION

Former Plaza Hotel
400 Johnson Street
Saginaw, Michigan

Prepared for:

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Revision Date: June 7, 2012

TECHNICAL SPECIFICATIONS
For
ENVIRONMENTAL ABATEMENT AND DEMOLITION

TABLE OF CONTENTS

SECTION 01025

MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.01 DESCRIPTION

All units of measurement shall be standard United States convention as applied to the specific items of work by tradition and as interpreted by Engineer and the Authority.

A. Unit Price Items

Payment items for the work of this contract on which the contract progress payment will be based are listed in the Bid Documents. The unit price and payment made for each item listed shall constitute full compensation for furnishing all labor, materials, and equipment, and performing any associated Contractor quality control, environmental protection, safety requirements, sampling, tests, and reports, and for performing all work required for each of the unit price items. Payment is contingent upon approval of all applicable submittals.

B. Lump Sum Items

Payment items for the work of this contract for which Contract lump sum payments will be made are listed in Bid Documents. Contract progress payments for lump sum items will be paid for based on the approved schedule of values. All cost for items of work, which are not specifically mentioned to be included in a particular lump sum or unit price payment item, shall be included in the listed lump sum item most closely associated with the work involved. The lump sum price and payment made for each item listed shall constitute full compensation for furnishing all labor, materials, and equipment, and performing any associated Contractor quality control, environmental protection, safety requirements, sampling, tests and reports, and for performing all work required for which separated payment is not otherwise provided. Payment is contingent upon approval of all applicable submittals.

1.02 SCOPE OF PAYMENT

A. The Contractor shall accept compensation as herein provided, as full payment to furnish all materials, labor, tools, equipment, permitting, and incidentals necessary to the completed work; for performing all work contemplated and embraced by the Contract; for all loss or damage arising from the nature of the work, or from the action of the elements, or from any unforeseen difficulties which may be encountered during the execution of the work; and for all expenses incurred in consequence of the suspension of the work as herein authorized.

B. No extra payment will be made to the Contractor for any expense or delays caused by revision of inadequate submittals, lack of progress, defective workmanship, or rescheduling of work by other contractors, subcontractors, or equipment and material suppliers.

C. No additional payment will be allowed because of differences between field dimensions and those shown specified herein should work be conducted before notifying the Engineer of these differences.

D. Additional costs caused by ill-timed or defective work, or work not conforming to Project Specifications, including costs for additional services of an Engineer, shall be incurred solely by the Contractor.

E. Work done on written instructions of the Engineer and/or the Authority, other than defective or non-conforming work, will be paid for by the Authority.

1.03 PAYMENT FOR INCREASED OR DECREASED QUANTITIES

A. Payment will be at the unit price bid for the respective item. Note only an estimated quantity is given in the Bid Schedule.

B. If less work than the unit price estimated quantity is performed, payment will be at unit price bid for actual quantity performed.

C. Increased or decreased work involving Change Orders will be paid for as stipulated in such Change Orders.

1.04 FINAL PAYMENT

A. The Engineer will make, as soon as practicable after the entire completion of the project, a final quantity invoice of the amount of the Work performed and the value of such work and the Authority will then pay the entire sum found to be due, after deducting therefrom all previous payments. All amounts to be paid under the provisions of the Contract may be held by the Authority for a period of sixty days after the completion of the final quantity invoice, or until such time as the Contractor submits satisfactory evidence that all bills for labor and materials used under this Contract have been paid and all required documents have been submitted to Engineer or Authority as required by the General Conditions.

1.05 DESCRIPTION OF PAY ITEMS

A. The following pay items describe the measurement of and payment for the work to be done under the respective items listed in the Bid.

B. Each unit price stated in the Bid shall constitute full compensation, as herein specified, for each item of the work completed.

1.06 SPECIFIC PAY ITEMS (NOT USED)

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

--END OF SECTION--

SECTION 01028

CHANGE ORDER PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Submittals.

B. Documentation of change in Contract Price and Contract Time.

C. Change procedures.

D. Construction Change Authorization or Work Directive Change.

E. Stipulated Price change order.

F. Unit price change order.

G. Time and material change order.

H. Execution of change orders.

I. Correlation of Contractor submittals.

1.2 . RELATED SECTIONS

A. Agreement Forms: Monetary values of established Unit Prices and percentage allowances for Contractor's overhead and profit.

B. General Conditions: Governing requirements for changes in the Work, in Contract Price. and Contract Time.

C. Section 01025 – Measurement and Payment.

D. Section 01300 - Submittals.

1.3. SUBMITTALS

A. Submit name of the individual authorized to receive change documents and be responsible for informing others in Contactor’s employ or Subcontractors of changes to the Work.

B. Change Order Forms: See General Conditions

1.4. DOCUMENTATION OF CHANGE IN CONTRACT PRICE AND CONTRACT TIME

A. Maintain detailed records of work done on a lime and material basis. Provide full information required for evaluation of proposed changes and to substantiate costs of changes in the Work.

B. Document each quotation for a change in cost or time with sufficient data to allows evaluation of the quotation.

C. On request, provide additional data to support computations:

1. Quantities of products, labor and equipment.

2. Taxes, insurance and bonds.

3. Overhead and profit.

4. Justification for any change in Contract Time.

5. Credit for deletions from Contract, similarly documented.

D. Support each claim for additional costs and for work do ne on a lime and material basis with additional information:

1. Origin and date of claim.

2. Dales and limes work was performed, and by whom.

3. Time records and wage rates paid.

4. Invoices and receipts for products, equipment and Subcontracts, similarly documented.

1.5. CHANGE PROCEDURES

A. The Engineer will advise of minor changes in the Work not involving an adjustment to Contract Price or Contract Time as authorized by General Conditions by issuing supplemental instructions on Field Order.

B. The Engineer may issue a Proposal Request which includes a detailed description of a proposed change with supplementary or revised Drawings and specifications, a change in Contract Time for executing the change with a stipulation of any overtime work required and the period of time during which the requested price will be considered valid. Contractor will prepare and submit an estimate within 15 days.

C. The Contractor may propose a change by submitting a request for change to the Engineer, describing the proposed change and its full effect on the Work. with a statement describing the reason for the change, and the effect on the Contract Price and Contract Time with full documentation and a statement describing the effect on Work by separate or other contractors. Document any requested substitutions.

1.6. CONSTRUCTION CHANGE AUTHORIZATION OR WORK DIRECTIVE CHANGE

A. Engineer may issue a document, signed by the Owner, instructing the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.

B. The document will describe changes in the Work and will designate method of determining an any change in Contract Price or Contract Time.

C. Promptly execute the change in Work.

1.7. STIPULATED PRICE CHANGE ORDER

A. Based on Proposal Request and Contractor's fixed price quotation or Contractor's request for a Change Order as approved by Engineer.

1.8. UNIT PRICE CHANGE ORDER

A. For pre-determined unit prices and quantities, the Change Order will be executed on a fixed unit price basis.

B. For unit costs or quantities or units of work which are not pre-determined, execute Work under a Construction Change Authorization or Work Directive Change.

C. Changes in Contract Price or Contract Time will be computed as specified for Time and Material Change Order.

1.9. TIME AND MATERIAL CHANGE ORDER

A. Submit itemized account and supporting data after completion of change, within time limits indicated in the Conditions or the Contract.

B. Engineer will determine the change allowable in Contract Price and Contract Time as provided in the Contract Documents.

C. Maintain detailed records or work done on Time and Material basis.

D. Provide full information required for evaluation of proposed changes, and to substantiate costs for changes in the Work.

1. 10. EXECUTION OF CHANGE ORDERS

A. Execution of Change Orders: Engineer will issue Change Orders for signatures of parties as provided in the Conditions of the Contract

1.11. CORRELATION OF CONTRACTOR SUBMITTALS

A. Promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Price.

B. Promptly revise progress schedules to reflect any change in Contract Time, revise sub-schedules to adjust time for other items of work affected by the change, and resubmit.

C. Promptly enter changes in Project Record Documents.

--END OF SECTION--

SECTION 01040

COORDINATION

PART 1 GENERAL

1.01 Project Coordination:

1. Prior to beginning Work the Contractor shall meet with Authority and Engineer and arrange the schedule for the project. Once the project is started, it shall be carried to completion without delay.

2. Phasing of Work shall be clearly established and verified with the Authority to commencing Work in any area. No demolition and removal of work shall begin until authorized by Authority or his representative.

3. Contractor is responsible for contacting Miss Dig a minimum of three working days prior to work start. Miss Dig 1-800-482-7171.

4. Contractor is responsible for contacting and coordinating Work with utility companies servicing the property.

5. Contractor is responsible for coordinating Work with local municipalities including compliance with local ordinances.

6. Contractor is responsible for coordinating Work with Engineer.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

--END OF SECTION--

SECTION 01060

REGULATORY REQUIREMENTS

PART 1 GENERAL

1.01 REGULATORY REQUIREMENTS

A. Applicable Codes, Permits, Ordinances, and Regulations

1.The Contractor shall comply with all Federal, State and local rules, ordinances, codes, regulations, and permit requirements relating to buildings, employment, the preservation of public health and safety, worker health and safety, demolition, hazardous material and asbestos handling, notices, frost laws, noise, dust control, and so forth. All necessary permits or certifications of inspection shall be paid for and obtained by the Contractor.

B. Fire Hazard Conditions

1. The fire hazard classification of finish materials where used in the specification shall be listed in the following table:

CLASS	FLAME SPREAD	FUEL CONTRIBUTION	SMOKE DEVELOPED
A	0 - 25	0 - 35	0 - 50
B	26 - 75	36 - 75	51 - 125
C	76 - 200	76 - 200	126 - 200

2. Classification shall be determined by tunnel test in accordance with National Fire Protection Association (NFPA-255), American Society for Testing Materials (ASTM-84) or Underwriters Laboratories, Inc. (UL-723).

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

--END OF SECTION--

SECTION 01110

SAFETY, HEALTH, AND EMERGENCY RESPONSE

PART 1 GENERAL

1.01 DESCRIPTION OF WORK

This Section provides minimum guidance and implementation of a site safety and accident prevention program for the employees of the Contractor and for preparation of a Health and Safety Plan (HASP). The HASP shall be submitted to the Engineer and Authority for information only. Approval shall not be required. The information and requirements identified in this section are the minimum requirements. The Contractor shall evaluate the work conditions and implement appropriate measures to protect the workers, environment, and general public.

1.02 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS (ACGIH)

ACGIH-02	(1993) 1993-1994 Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices or most recent revision.

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI Z358.1	(1990) Emergency Eyewash and Shower Equipment or most recent revision.

CODE OF FEDERAL REGULATIONS (CFR)

29 CFR Part 1904	Recording and Reporting Occupational Injuries and Illnesses
29 CFR Part 1910	Occupational Safety and Health Standards
29 CFR Part 1926	Safety and Health Regulations for Construction
49 CFR Part 171	General Information, Regulations, and Definitions
49 CFR Part 172	Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements

NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH (NIOSH)

NIOSH Pub No. 85-115	(1985) Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities or most recent revision.

1.03 SUBMITTALS

The following submittals are required for information only. The Authority reserves the right to request for additional pertinent information.

A. Site Drawings showing proposed zones such as exclusion zones, decontamination zones, support zones, etc.

B. Personnel Exposure Monitoring Results

C. Site Control Log

D. Record of each entry into and exit from the site

E. Health and Safety Plan

F. Qualifications and experience of the Site Safety and Health Officer (SSHO) and Safety Health Manager (SHM)

G. Proof of Employee Training (OSHA HAZWOPER 40 Hour and Annual 8 Hour Updates and AHERA Asbestos Worker and Contract Supervisor)).

1.04 REGULATORY REQUIREMENTS

Work performed under this contract shall conform to all applicable Federal, State, and local safety and occupational health laws and regulations. This includes, but is not limited to, Occupational Safety and Health Administration (OSHA) standards, 29 CFR Part 1910, especially Section .120, "Hazardous Waste Site Operations and Emergency Response" and 29 CFR Part 1926, especially Section .65, "Hazardous Waste Site Operations and Emergency Response". . Matters of interpretation of standards shall be submitted to the appropriate administrative agency for resolution before starting work. Where the requirements of this specification, applicable laws, criteria, ordinances, regulations, and referenced documents vary, the most stringent requirements shall apply.

1.05 HEALTH AND SAFETY PLAN

A. Preparation and Implementation

A HASP shall be prepared covering on site work to be performed by the Contractor and all subcontractors. The Safety and Health Manager shall be responsible for the development, implementation, and oversight of the HASP. The HASP shall establish, in detail, the protocols necessary for the anticipation, recognition, evaluation, and control of hazards associated with each task performed. The HASP shall address site-specific safety and health requirements and procedures based upon site-specific conditions. The level of detail provided in the HASP shall be tailored to the type of work, complexity of operations to be performed, and hazards anticipated. Details about some activities may not be available when the initial HASP is prepared. Therefore, the HASP shall address, in as

much detail as possible, anticipated tasks, their related hazards, and anticipated control measures.

B. Availability

The HASP shall be made available in accordance with 29 CFR Part 1910, Section .120 (b)(1)(v) and 29 CFR Part 1926, Section .65 (b)(1)(v).

C. Elements

Topics required by 29 CFR Part 1910, Section .120 (b)(4) and in 29 CFR Part 1926, Section .65 (b)(4) shall be addressed in the HASP. Where the use of a specific topic is not applicable to the project, the HASP shall include a statement to justify its omission or reduced level of detail and establish that adequate consideration was given the topic. The HASP should include but will not be limited to the following sections:

A. Site description and contamination characterization
B. Hazard/Risk analysis
C. Staff organization, qualifications, and responsibilities
D. Training
E. Personal protective equipment
F. Medical surveillance
G. Exposure monitoring/air sampling program
H. Heat and cold stress monitoring
I. Safety procedures, engineering, controls, and work practices
J. Site control measures
K. Personal hygiene and decontamination
L. Equipment Decontamination
M. Emergency equipment and first aid requirements
N. Emergency response and contingency
O. Certificate of worker/visitor acknowledgment
P. Inspection
Q. Safety and health phase-out report

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

--END OF SECTION--

SECTION 01120

HAZARDOUS MATERIAL PROJECT PROCEDURES

PART 1 GENERAL

A. SITE SPECIFIC CONTAMINATION

1. This property may have been identified as having contamination that is associated with previous site activities. If provided see the Contractor Disclosure Statement for details regarding the on-site subsurface contamination.

2. In addition to subsurface contamination, hazardous materials may have been identified on/within the subject buildings and are to be legally removed from the job site in order to complete the Work as described in the Proposal and Contract. The removal of asbestos containing materials (ACM) is required. The Contractor shall contact the Air Quality Division, Michigan Department of Environmental Quality (MDEQ), and the Michigan Department of Energy Labor and Economic Growth (MDELEG) Asbestos Program, for a permit and furnish all training, labor, materials, services, insurance, and equipment necessary to carry out the removal of ACM from the property. In addition, hazardous materials, as identified or encountered on the job site, are to be removed for disposal, in accordance with State and Federal Hazardous Waste Codes.

3. Site Identification Number and signature must be obtained prior to transportation and disposal of hazardous substances.

4. All manifests shall be in accordance with the requirements of all the applicable federal, state and local regulations. Manifests shall be signed by the Authority or the Authority's Representative.

5. The Resource Management Division of the MDEQ regulates waste disposal (air, water, land and liquid industrial) and carries out the requirements of the Federal Environmental Protection Agency (EPA). For general information and/or a copy of the latest regulations and publications contact the MDEQ.

B. The Michigan Occupational Safety and Health Administration (MIOSHA) provides protection and regulations for the safety and health of workers. The Michigan Department of Energy, Labor, and Economic Growth provides for the safety of workers.

1. Contractor shall post any applicable State and/or Federal government regulations at the job site in a prominent location.

2. Contractor shall be responsible for training their workers in safe work practices and in proper removal methods when coming in contact with hazardous materials/chemicals.

C. Applicable Regulations:

1. RCRA, 1976 - Resource Conservation and Recovery Act: This federal statute regulates generation, transportation, treatment, storage or disposal of hazardous wastes nationally.

2. Act 64, 1979 - Michigan's Hazardous Waste Management Act: This statute regulates

generation, transportation, treatment, storage and disposal of hazardous wastes in Michigan.

3. Act 136, 1969 - Liquid Industrial Waste Act: This statute regulates the transportation of liquid industrial wastes in Michigan. This includes non-hazardous liquids and hazardous liquids which are not subject to management under RCRA or Act 64.

4. Act 60, 1976 - PCB Act: This statute regulates the generation, transportation, storage and disposal of PCB wastes in Michigan.

D. Definitions: Hazardous substances are ignitable, corrosive, reactive, and/or toxic, based on their chemical characteristics.

E. Disposal: To use an off-site waste disposal facility, the Contractor must use the Uniform Hazardous Waste Manifest (shipping paper). All manifests must be approved by owner or representative and copies must be provided to owner.

1. Hazardous waste may not be disposed of in sanitary landfills used for solid waste. Contractor is responsible for following all hazardous, non-hazardous, liquid, and solid waste disposal requirements.

F. Federal, State and local laws and regulations may apply to the storage, handling and disposal of hazardous materials and wastes. The list below includes the regulations which are most frequently encountered.

Topic	Agency
Small quantity hazardous waste management, including hazardous waste stored in tanks	Resource Management Division, MDEQ
Liquid industrial waste disposal (hazardous and nonhazardous)	Resource Management Division, MDEQ
Discharges to surface water such as through a drain pipe or wastewater discharge	Water Bureau, MDEQ and Local Municipality
Discharges to groundwater, including septic systems	Water Bureau, MDEQ and Local Municipality
Material storage permits	Water Bureau, MDEQ
Pollution Incident Prevention Plans (PIPP Plans)	Water Bureau, MDEQ Local Municipality Health Departments assisting w/ground-water program administration

SECTION 01120

HAZARDOUS MATERIAL PROJECT PROCEDURES

Hazard Communication Standards (for chemicals in the work place)	Occupational Health Division, Michigan Department of Community Health

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01200

PROJECT MEETINGS

PART 1 GENERAL

1.01 PRECONSTRUCTION MEETING

If necessary, the Engineer or Authority shall schedule a preconstruction conference to be attended by the Authority, the Contractors, and other personnel. Once the project has been started, the Contractor shall carry it to completion without delay.

1.02 PROGRESS MEETINGS

If necessary, the Engineer or Authority will schedule progress meetings to be held on the job site whenever needed to supply information necessary to prevent job interruptions, to observe the Work or to inspect completed Work. The Contractor shall be represented at each progress meeting by persons with full authority to act for the Contractor in regard to all portions of the Work.

1.03 WEEKLY SITE ACTIVITY MEETINGS

If necessary, the activity meetings shall be held on the job site weekly throughout the entire period of demolition. The weekly meeting shall be attended by the Contractor, Engineer, the Authority, and other parties involved in the construction activities. The Contractor shall report weekly site activities, and problems and solutions.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

--END OF SECTION--

SECTION 01300

SUBMITTALS

PART 1 GENERAL

1.1 SUBMITTAL CLASSIFICTION

A. Submittals are classified as the Authority (or Engineer) Approved (SA) and For Information Only (FIO).

1.2 APPROVED SUBMITTALS

A. The approval of submittals by the Engineer or Authority shall not be construed as a complete check, but will indicate only that the general method of construction, materials, detailing and other information are satisfactory. Approval will not relieve the Contractor of the responsibility for any error which may exist.

B. Upon completion of review of submittals required Authority approval (SA), the submittal will be identified as having received approval by being so stamped and dated.

1. Reservation of Rights

The Authority reserves the right to require the Contractor to resubmit any item found not to comply with the Contract. This does not relieve the Contractor from the obligation to furnish material conforming to the plans and specifications and will not prevent the Engineer from requiring removal and replacement if nonconforming material is incorporated in the work. This does not relieve the Contractor of the requirement to furnish samples for testing by the Authority or check testing by the Authority in those instances where the technical specifications so prescribe. Additional time and expense necessary to comply with additional resubmittals required under this paragraph will not be the basis for any claims for time extension, delay, or extra cost on the part of the Contractor.

1.3 DISAPPROVED SUBMITTALS

When a submittal is returned to the Contractor and marked “DISAPPROVED” or “APPROVED AS NOTED, REVISE AND RESUBMIT”, the Contractor shall make all corrections required by the Engineer and promptly furnish a corrected submittal in the form and number of copies as specified for initial submittal.

1.4 WITHHOLDING OF PAYMENT

Payment for materials incorporated in the work will not be made if required approvals have not been obtained. Additional time and expense necessary to comply with additional resubmittals required under this paragraph will not be the basis for any claims for time extension, delay, or extra cost on the part of the Contractor.

1.5 SCHEDULING

Submittal covering component items forming a system or items that are interrelated shall be scheduled to be coordinated and submitted concurrently. Certifications to be submitted with pertinent drawings shall be so scheduled. No delay damages or time extensions will be allowed for time lost in late

submittals.

1.6 CONTROL OF SUBMITTALS

The Contractor shall carefully control its procurement operations to ensure that each individual submittal is made on or before the Contractor scheduled submittal date.

1.7 INFORMATION ONLY SUBMITTALS

Normally submittal for information only will not be returned by receipt thereof will be acknowledged. Approval of Engineer is not required on information only submittals. These submittals will be used for information purposes.

1.8 LIST OF SUBMITTALS

Submittals include but are not limited to the followings:

A. Contract Deliverable Submittals

1. Project Record Documents
2. Site activity reports
3. Disposal Documents, including manifests and disposal tickets
4. Inspection and test reports

B Other Submittals

1. Project Work Plan; SA
2. Health and Safety Plan (HASP); FIO
3. Disposal Facility; SA
4. Soil Erosion and Sedimentation Control Plan; FIO
5. Permits, FIO

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01310

PROJECT MANAGEMENT AND COORDINATION

PART 1 GENERAL

1.01 SECTION INCLUDES

Procedures for project coordination.

1.03 PROJECT COORDINATION

A. Additional On-Site Activities

Activities specified in this Project Manual will be conducted simultaneous with additional site assessment activities at the property. Coordination with the property owner will be conducted through the Project Representative.

B. Commencement Meeting

Before initiating on-site activities, the Contractor shall schedule an on-site meeting with the Owner (i.e., the Authority) and the Engineer. The meeting agenda will include the project schedule, regulatory agencies, health and safety plans, hazardous material handling and disposal plans, spill prevention and cleanup plans, permitting, work zones and site control, and other specifics regarding on-site activities.

C. Work Phasing

The Contractor shall clearly establish and verify with the Resident Project Representative a minimum of 48 hours before initiating on-site activities. Do not begin construction activities until permitted by the Project Representative.

D. Utility Interruptions

The Contractor shall prearrange with the Project Representative within 48 hours of any building utility service interruptions or outages necessary for project completion.

E. Inspections/Testing

The Contractor shall prearrange with the Project Representative within 48 hours of any known inspection and/or requirement for Project Representative to witness inspection or testing.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

--END OF SECTION -

SECTION 01330

SUBMITTAL PROCEDURES

PART 1 GENERAL

1.01 PURPOSE

A. To verify that products and systems proposed by the Contractor for use on this Project conform with the design intent. The Contractor shall forward to the Authority or Engineer, project data, shop drawings, samples, certifications, schedules, manuals, and other submittals as required in the specifications.

1.02 SUBMITTAL SCHEDULE

A. Provide a submittal schedule within ten (1) days after receipt of Notice of Award, listing the following by specification section:

1. Dates that submittal items shall be provided for review.

2. Dates by which the Contractor requires acceptance of the submittal for procurement, fabrication, and installation purposes.

B. The schedule shall allow for reasonable review cycles, and shall be consistent with the overall construction schedule.

C. No claims for schedule delays will be allowed for unresponsive submittals or failure to respond to comments in a timely manner by Contractor.

1.03 PREPARATION OF SUBMITTALS BY CONTRACTOR

A. Review submittal items for legibility, conformance to the Contract Documents, coordination between work items, and completeness according to submittal requirements of each specification section; certify review by signing transmittal form; and list the Contractor’s comments

B. Utilize the transmittal form attached to identify submittals, and provide information required in Contractor’s portion of form, including:

1. Date of submittal.

2. Project Name, Contract No., and Location.

3. Submittal No., in sequence, beginning with 1.

4. Contractor’s name, address, and contact person.

5. Items within submittal, numbered in sequence.

6. Specification sections no.

7. Manufacturer/Designer/Supplier.

8. Special Instructions (when response is needed, if there is a deviance, etc.).

9. Signature certifying that the Contractor has reviewed the submittal.

C. Cross-reference actual items in submittal by labeling them clearly by item number listed in transmittal, and provide them in the sequence listed.

D. If all the submittal items required for the specification section are not provided or deviate from the Contract Documents, attach a memo explaining when the missing items will be provided.

E. Provide three copies of submittals to the Authority or Engineer. If the Contractor anticipates review will require markup and return of the actual submittal, rather than a separate comment sheet to be faxed, then he shall provide an additional copy for mark up and return to the Contractor. A legible fax may be accepted to initiate review, if followed by hard copy.

F. Send submittals to:

AKT Peerless Environmental and Energy Services
214 Janes Avenue, Saginaw, Michigan 48607
Attn: Ryan T. Londrigan, CHMM
Email: Ryan@aktpeerless.com
Ph: 989-754-9896
Cell: 989-284-7238
Fax: 989-754-3804

1.04 REVIEW BY ENGINEER

A. Upon receipt, Engineer will log in submittals, provide copy of submittal to the Authority, and review for conformance with the design intent.

B. The Engineer will return submittal review forms and comments via fax. Review of items noted critical by the Contractor will be expedited.

C. The Engineer will log out submittal upon faxing comments to the Contractor, and will further distribute forms and comments to the Engineer's organization as required for orderly progression of the project.

D. Review is for general conformance with design concept for the project and general compliance with the information given in the Contract Documents. Review action codes are listed below (see also attached Transmittal Form and the Engineer's Stamp/Comment Form).

1. No Exceptions Taken (Code 1): Fabrication and installation may proceed.
2. Make Corrections Noted (Code 2): The Contractor shall make the changes noted, and then may proceed with fabrication or installation.
3. Amend and Resubmit (Code 3): The Contractor shall make the changes noted, and resubmit for an additional review cycle.
4. Rejected - See Remarks (Code 4): The Contractor shall make the changes noted, which may involve a complete new product submittal, and resubmit for an additional review cycle.

1.05 RESPONSIBILITIES OF THE CONTRACTOR

A. The review action code (described in this Section) does not relieve the Contractor from responsibility of compliance with requirements of the Contract Documents. The Contractor remains responsible for dimensions, job site correlation, fabrication processes, construction methods, and coordination of installation work, as well as manufacturers' testing and operational requirements.

B. Contractor shall promptly distribute submittal review actions and comments to its suppliers, and otherwise as required for orderly progression of the job, and shall modify or replace products to comply with comments.

C. Products fabricated or installed before receiving Review Action Code 1 or 2 shall be modified or replaced at the Contractor's expense, to conform with the design intent, as directed by the Engineer. Products receiving Action 2, but not modified per comments prior to installation, shall similarly be modified or replaced per direction of Engineer.

1.06 RESUBMISSION

A. Items receiving an Action Code 1 or 2 do not require resubmission, unless the original product becomes unavailable, or changes in the project make the original product incompatible.

B. The Contractor shall repeat the submittal process for items receiving an Action Code 3 or 4. The original submittal number shall be used with a letter code suffix appended in ascending order for each resubmission of the item.

1. The original submittal shall be #1.
2. The first resubmission of that submittal would be #1A.
3. The second resubmission of that submittal would be #1B; and etc. (if required).

C. The Contractor shall relate item numbers in resubmissions to prior submittals of that series. For example, if original submittal No. 1 items 1, 4, and 6 require resubmission, they should be provided as [re]submittal No. 1A, items 1, 4, and 6.

D. The resubmission coding systems described above are designed to expedite review processes and simplify filing and retrieval for the Project Manager, the Engineer, the Contractor, and the Resident Project Representative. When additional cross-referencing is required for the sake of clarity, the Contractor shall provide explanatory notes.

1.07 DOCUMENTATION

A. Documentation provided in submittals shall be in adequate detail regarding dimensions, capacities, durability, materials, connections, and interface to confirm whether the products represented comply with the design intent.

B. Documentation shall be organized to facilitate review and use: reports and manuals shall have a table of contents in suitable detail for locating required topics and attachments.

C. Documentation shall be in proper form and format. For example, signed Certificates of Compliance shall be provided under Manufacturer's Letterhead with information requested in the attached sample form.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

--END OF SECTION--

(Sample)

MANUFACTURER'S LETTERHEAD

CERTIFICATE OF COMPLIANCE

(Manufactured or Fabricated Material)

Date _____

WE HEREBY CERTIFY that _____
(Description, Kind of Material, Model No., etc.)

Furnished to _____
(Name of Contractor) (Prime or Sub.)

For Use On _____
(Project Name)

No. _____ Owner _____

In the Amount of _____
(Quantity Represented)

Identified By _____
(Label, Marking, Seal No., Consignment, or Waybill No.)

Shipped on _____ Delivered on _____

Shipped Via _____
(Method of Shipment, Car No., Truck No.)

MEETS THE REQUIREMENTS OF THE PERTINENT PROJECT PLANS, SPECIAL CONDITIONS AND SPECIFICATIONS OF THE SUBJECT PROJECT IN ALL RESPECTS. PROCESSING, PRODUCT TESTING AND INSPECTION CONTROL OF RAW MATERIALS ARE IN CONFORMANCE WITH ALL APPLICABLE SPECIFICATIONS, DRAWINGS AND/OR STANDARDS OF ALL ARTICLES FURNISHED.

All records and documents pertinent to this certificate and not submitted herewith will be maintained available by the undersigned for a period of not less than three years from the date of this certificate.

Manufacturer _____

Signed by _____

Printed Name _____

Title _____

SECTION 01350

SPECIAL PROJECT PROCEDURES

PART 1 GENERAL

1.01 REFERENCES

A. Occupational Safety and Health Administration (OSHA) Standards. Title 29, Code of Federal Regulations, Parts 1910 and 1926 (29 CFR 1910 and 1926).

B. United States Environmental Protection Agency, “Standard Operating Safety Guides”, November, 1984.

1.02 DESCRIPTION

A. The Contractor shall prepare a site-specific Health and Safety Plan (HASP).

B. The intent of these special project procedures is to provide controls and measures for the prevention of water and air pollution and the protection of natural resources during the execution of work included in this Contract. Environmental protection shall include but not be limited to measures for preventing contaminated storm water runoff from entering storm drains, erosion and sediment control, spill prevention and control, and dust control.

C. The Contractor shall control operations to provide environmental protection in conformance with local, state, and Federal permits, licenses, and regulations.

D. The Contractor shall certify that the Contractor's employees are properly trained to perform the work required by this Contract.

1.03 SUBMITTALS

Health and Safety Plan (HASP)

A. Within ten working days after the Pre-construction meeting, submit any amendments to the site-specific HASP, as deemed necessary by the Engineer.

B. The HASP is an on-site enforceable document that shall guide the activities of the Contractor’s and all subcontractor’s personnel and shall define site-specific safety provisions necessitated by all project activities of the Contractor and subcontractors.

C. The Contractor and his safety officer shall be solely responsible for the implementation and monitoring of the HASP.

D. Any amendments to the HASP shall be submitted to the Owner and Engineer for review prior to start of fieldwork. The Owner or Engineer may require revisions to the amended HASP to bring the plan into compliance with the referenced regulations. The Contractor will be responsible for protection of their employees. The Engineer will be responsible for protection of their employees.

E. Conduct operations in accordance with the HASP. Disregard for the provisions of the HASP shall be deemed just and sufficient cause for suspension of the work and/or removal of Contractor’s personnel without compromise or prejudice to the rights of the Owner.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

--END OF SECTION--

SECTION 01420

REFERENCES

PART 1 GENERAL

1.01 SECTION INCLUDES

Lists of reference standards cited in the contract documents and the organizations whose standards are cited.

1.02 RELATED SECTIONS

A. Section 00700 – General Conditions

B. Section 0080001 – Supplementary Conditions

1.03 PERFORMANCE REQUIREMENTS

A. Applicable Codes

Comply with all current local and State rules, ordinances, and regulations relating to buildings, employment, the preservation of public health and safety, etc. Pay and obtain all necessary permits or certificates of inspection necessary for project completion.

1.04 REFERENCES

Acronym	**Institution or Organization**
AKT Peerless	AKT Peerless Environmental & Energy Services 214 Janes Avenue Saginaw, Michigan 48607
Authority, Owner, Client	Saginaw County Land Bank Authority 111 S. Michigan Saginaw, Michigan 48602
ACI	American Concrete Institute P .0. Box 4754, Redford Station Detroit, Michigan 48219
AISC	American Institute of Steel Construction, Inc. 101 Park Avenue New York, New York 10017
ANSI	American National Standards Institute, Inc. 1430 Broadway New York, New York 10018
ASME	American Society of Mechanical Engineers United Engineering Center 345 East 147th Street New York, New York 10017
ASSE	American Society of Sanitary Engineering 960 Illuminating Building Cleveland, Ohio 44113
ASTM	American Society of Testing and Materials 1916 Race Street Philadelphia, Pennsylvania 19103
AWS	American Welding Society 345 47th Street New York, New York 10017
AWWA	American Water Works Association 6666 W. Quincy Avenue Denver, Colorado 80235

Acronym	Institution or Organization
BOCA	Building Officials and Code Administrators International 17926 South Halsted Street Homewood, Illinois 60430
CS	Commercial Standard National Bureau of Standards Office of Engineering Standards U.S. Department of Commerce Washington, D.C. 20234
CSI	Construction Specifications Institute 601 Madison Street Alexandria, Virginia 22314
FS	Federal Specifications National Bureau of Standards Office of Engineering Standards U.S. Department of Commerce Washington, D.C. 20234
J&A	Johnson and Anderson, Inc. 4494 Elizabeth Lake Road Waterford, Michigan 48328
U.S. DHEW	United States Department of Health Education and Welfare Division of Facilities Development Federal Building 9000 Rockville Pike Bethesda, Maryland 20014
MDEQ	Michigan Department of Environmental Quality 525 West Allegan Street P.O. Box 30473 Lansing, Michigan 48909-7973
MDOT	Michigan Department of Transportation Highways Building Lansing, Michigan 48913
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NFPA	National Fire Protection Association 60 Batterymarch Street Boston, Massachusetts 02110
NSWMA	National Solid Waste Management Association 1120 Connecticut Avenue, N.W., Suite 930 Washington, D.C. 20036
USBM	United States Bureau of Mines Department of the Interior Washington, D.C. 20240
USDC	United States Department of Commerce National Bureau of Standards Washington, D.C. 20225
U.S. EPA	United States Environmental Protection Agency

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

--END OF SECTION--

SECTION 01450

QUALITY CONTROL

PART 1 GENERAL

1.01 SECTION INCLUDES

Quality control measures for samples submitted for laboratory analyses.

1.02 RELATED SECTIONS

A. Division 2 Activities

B. Division 13 Activities

1.03 REFERENCE STANDARDS

A. Code of Federal Regulations (CFR)

1. CFR 29 CFR 1926/1910 Construction Industry Occupational Safety and Health Standards.

2. CFR 40 CFR 260 General Regulations for Hazardous Waste Management.

3. CFR 40 CFR Part 261 Identification and Listing of Hazardous Waste.

4. CFR 49 CFR 171 Department of Transportation Regulations to Stipulate Requirements for Containers and Procedure for Shipment of Hazardous Waste.

B. National Fire Protection Association (NFPA)

1. NFPA 30 (1990) Flammable and Combustible Liquids Code.

2. NFPA 325M (1991) Fire Hazard Properties of Flammable Liquids, Gases, and Volatile Solids.

C. State of Michigan

1. P.A. Act 451, Michigan Natural Resources and Environmental Protection Act

2. MIOSHA Act 154 General Industry and Construction (as amended) Safety Standards.

D. United States Environmental Protection Agency (U.S. EPA)

1. U.S. EPA SW-846, Test Methods for Evaluating Solid Waste.

1.04 REGULATORY REQUIREMENTS

A. Statutes and Regulations

Collect all samples in accordance with U.S. EPA SW-846. Samples submitted for laboratory analyses must be analyzed in accordance with U.S. EPA and MDEQ approved

methods. Submit samples for all laboratory analyses required by the approved disposal facility.

B. General

All health and safety regulations relating to collecting samples from hazardous materials available in 29 CFR, Parts 1926 and 1910 shall be complied with at all times. All pertinent regulations such as 29 CFR Parts 1910 and 1926 and 40 CFR 260, 261, 262, 263, 264, 761 and applicable state and local regulations shall be followed in sampling, storing, containing, and handling hazardous waste in tanks, drums, and soil.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

--END OF SECTION--

SECTION 01510

TEMPORARY UTILITIES

PART 1 GENERAL

1.01 SECTION INCLUDES

Requirements for temporary utilities used on site during project activities. Costs for temporary utilities should be included in the bid for site services.

1.02 RELATED SECTIONS

A. Section 01520 – Construction Facilities

B. Section 01560 – Temporary Barriers and Enclosures

1.03 PERFORMANCE REQUIREMENTS

A. Installation

Supply and install all temporary utilities and controls required to complete all specified activities. Temporary utilities may include electricity and water.

B. Connection

Connect or have connected all temporary utilities and controls required to complete all specified activities. Pay all initial connection fees and monthly service costs.

C. Disconnection

At the conclusion of the project, disconnect or have disconnected all temporary utilities and controls installed for completion of this project. Pay final cancellation costs, if any, and monthly service costs. Restore grounds and existing facilities to original condition.

PART 2 PRODUCTS

2.01 EQUIPMENT

Provide all necessary equipment, materials, labor, hook-up fees, and incidentals to supply each utility. If renting equipment, pay all costs associated with rental of temporary utility equipment.

2.02 COMPONENTS

A. Provide temporary electrical power to the job site during construction.

1. Arrange and pay for connection and fees.

2. Install temporary wiring and accessories.

3. Pay for electricity used during construction.

4. Remove temporary connection and wiring at completion of job.

B. Provide temporary telephone service to the job site during construction.

1. Arrange and pay for connection and fees.
2. Install temporary wiring and accessories.
3. Provide telephones for use during construction.
4. Pay for telephone service (and roam charges as applicable) used during construction.
5. Remove temporary connection and wiring at completion of job.

C. Provide and pay for temporary heat to the job site during construction.

D. Provide and pay for temporary water supply to the job site during construction.

1. Arrange and pay for connection and fees.
2. Install temporary piping and accessories.
3. Pay for water service used during construction.
4. Remove temporary connection and wiring at completion of job.
5. Provisions assumed by the Contractor.

PART 3 EXECUTION (NOT USED)

--END OF SECTION--

SECTION 01520

CONSTRUCTION FACILITIES

PART 1 GENERAL

1.01 SECTION INCLUDES

Requirements for temporary facilities used on site during project activities. Costs for any construction facilities should be included in the bid items for site services.

1.02 RELATED SECTIONS

Section 01510 – Temporary Utilities

1.03 PERFORMANCE REQUIREMENTS

A. Installation

Provide additional storage (as necessary) and sanitary facilities for the property. Sanitation facilities must remain at the property until termination of this phase of the project. Connect or have connected temporary utilities necessary for operation of the construction facilities, as specified in Section 01510, Temporary Utilities.

B. Cleanliness

All construction facilities must be kept clean, orderly, and in adequate state of repair. Adequacy of provided facilities will be determined by the Authority or Engineer. Dilapidated construction facilities will be immediately removed from site at the Contractor's expense.

1.04 QUALITY ASSURANCE

A. Cross-Contamination

Instruct personnel to maintain cleanliness throughout the construction area to prevent unnecessary cross-contamination.

B. Daily Inspections

Conduct daily inspections to ensure that standards are being maintained. The Authority or Engineer will conduct random inspections to verify "good housekeeping" procedures are being practiced.

1.05 SCHEDULING

A. Facility Inspections

Conduct daily inspections and necessary cleaning and maintenance for the facilities specified. Inadequate facilities, as determined by the Resident Project Representative, will be immediately removed from site at the contractor's expense. At a minimum, sanitary facilities will be cleaned twice each month.

PART 2 PRODUCTS

2.01 EQUIPMENT

A. Sanitary Facilities

Provide and maintain temporary, portable sanitary facilities, in locations approved by the Engineer. Provide adequate facilities for the work force. Comply with local, state, and federal code requirements. Maintain the temporary sanitary facilities in good condition at all times and remove them when all specified activities under this Contract have been completed. Bid must include costs for (1) mobilization, (2) building rental, (3) semi-monthly cleanings, and (4) demobilization.

PART 3 EXECUTION (NOT USED)

--END OF SECTION--

SECTION 01525

CONSTRUCTION AIDS

PART 1 GENERAL

1.1 DESCRIPTION

A. The Contractor shall furnish, install, and maintain as long as necessary and remove when no longer required, safe and adequate scaffolding, ladders, staging, platforms, chutes, railings, hoisting equipment, etc., as required for proper execution of the Work. All construction aids shall conform to federal, state, and local codes or laws for protection of workers and the public.

B. Storage Containers: The contractor shall provide and maintain as long as necessary and remove when no longer required, all appropriate storage containers for the purposes of equipment storage and waste disposal.

C. Pumping and Drainage: The Contractor shall provide all pumping necessary to removed required wastewater and keep excavations and trenches free from water the entire period of Work on the contract. The Contractor shall construct and maintain any necessary surface drainage systems on the Work site so as to prevent water entering existing structures or to flow onto public or private property adjacent to the Owner's land, except for existing drainage courses or into existing drainage systems. The Contractor shall prevent erosion of soils and blockage of any existing drainage system.

If provided, Contractor must follow Contractor Disclosure Statement with respect known or assumed contamination.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

--END OF SECTION--

SECTION 01530

BARRIERS AND ENCLOSURES

PART 1 GENERAL

1.1 DESCRIPTION

A. The Contractor shall furnish, install and maintain as long as necessary and remove when no longer required adequate barriers, enclosures, warning signs or lights at all dangerous points throughout the Work for protection of property, workers and the public. The Contractor shall hold the Authority and Engineer harmless from damage or claims arising out of any injury or damage that may be sustained by any person or persons as a result of the Work under the Contract.

B. Temporary Fence: The Contractor shall entirely enclose the Contract Work area by means of appropriate industry standard fencing having minimum height of six (6) feet.

Fencing shall be in compliance with all governing laws, regulations, codes and ordinances

Gates shall be provided at all points of access. Gates shall be closed and secured in place at all times when Work under the Contract is not in progress.

Gates shall have minimum width of 20 feet to allow access for emergency vehicles.

Gates must be capable of manual operation by one person.

Installation of temporary fencing shall not deter or hinder access to existing and new hose connection and fire hydrants. Maintain fencing in good condition.

If damaged, immediately repair.

The fence shall be removed and grounds restored to original condition upon completion of the Work.

Repair damage caused by installation of temporary fencing.

Authority and Engineer reserve right to stop work based on inadequate fencing, reject installed fencing, and require immediate changes.

C. Street Barricades: The Contractor shall erect, maintain all street barricades, signal lights and lane change markers during the periods that a traffic lane is closed for his/her operations. There shall be full compliance with rules and ordinances respecting such street barricading and devices shall be removed when hazard is no longer present.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01530

BARRIERS AND ENCLOSURES

PART 1 GENERAL

1.1 DESCRIPTION

A. The Contractor shall furnish, install and maintain as long as necessary and remove when no longer required adequate barriers, enclosures, warning signs or lights at all dangerous points throughout the Work for protection of property, workers and the public. The Contractor shall hold the Authority and Engineer harmless from damage or claims arising out of any injury or damage that may be sustained by any person or persons as a result of the Work under the Contract.

B. Temporary Fence: The Contractor shall entirely enclose the Contract Work area by means of appropriate industry standard fencing having minimum height of six (6) feet.

Fencing shall be in compliance with all governing laws, regulations, codes and ordinances

Gates shall be provided at all points of access. Gates shall be closed and secured in place at all times when Work under the Contract is not in progress.

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If damaged, immediately repair.

The fence shall be removed and grounds restored to original condition upon completion of the Work.

Repair damage caused by installation of temporary fencing.

Authority and Engineer reserve right to stop work based on inadequate fencing, reject installed fencing, and require immediate changes.

C. Street Barricades: The Contractor shall erect, maintain all street barricades, signal lights and lane change markers during the periods that a traffic lane is closed for his/her operations. There shall be full compliance with rules and ordinances respecting such street barricading and devices shall be removed when hazard is no longer present.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01570

TEMPORARY CONTROLS

PART 1 GENERAL

1.01 SECTION INCLUDES

Site or environmental controls necessary to allow safe working conditions.

1.02 RELATED SECTIONS

A. Section 01510 – Temporary Utilities

B. Section 1520 – Construction Facilities

C. Section 01525 – Construction Aids

D. Section 01530 –Barriers and Enclosures

1.03 QUALITY ASSURANCE

A. Cleanliness

All construction facilities must be kept clean, orderly, and in adequate state of repair. Adequacy of provided facilities will be determined by the Engineer and/or Authority. Dilapidated construction facilities will be immediately removed from site at the contractor's expense.

B. Inspections

Conduct routine inspections to ensure that standards are being maintained. The Engineer and/or Authority will conduct random inspections to verify "good housekeeping" procedures are being practiced.

1.04 SITE CONDITIONS

A. Safety Provisions

Maintain all temporary facilities to provide safe working conditions and prevent unauthorized entry to the site.

B. Drainage Facilities

Provide as part of the Contract Price all temporary drainage facilities necessary to perform specified activities in accordance with the bid schedule.

C. Erosion Control

Contractor is responsible for all soil erosion and sedimentation control, including installation of silt fence, check dams, track-out prevention, and other controls. Contractor must comply with local, state, and federal soil erosion and sedimentation control requirements. Inspect the construction site weekly or within 24 hours after a rainfall greater than 0.5 inches. If erosion has occurred or if sediment accumulation warrants removal, conduct the necessary removal. Upgrade soil erosion and sedimentation

controls as necessary to prevent off-site soil transport. Remove or replace soil accordingly.

D. Cleaning and Waste Removal

Continuously maintain cleanliness and orderliness around storage areas during construction activities, to allow safe passage, good drainage, and proper access.

1. Collect scrap, waste, debris, and spoil in and around storage areas daily. Discard in appropriate waste receptacles.

2. Straighten and restack storage piles weekly.

3. Collect scrap, waste, debris, and spoil in and around construction areas weekly. Discard in appropriate waste receptacles.

4. Remove and dispose all waste derived from on-site activities, including used PPE, general refuse, and scrap metal.

E. Temporary Fencing, Barriers, Enclosures, and Security Devices

1. Provide temporary protection to existing improvements, including fencing, poles, wires, pipes, underground utilities, property corners, curbing, and survey benchmarks (as necessary). Repair or restore to original condition any improvements damaged during on-site activities.

2. If existing fencing inhibits on-site activities, request permission in writing to temporarily remove. If permission is granted, replace removed fencing immediately after necessary activities are completed in the restricted area.

3. Erect a temporary, four-foot-high fence to deny access to open excavations deeper than 1-foot. Place bright plastic ribbon at eye-level and in random locations along the fence to warn unaware or complacent workers or passers by of the imminent danger. Barricade with construction barrels or otherwise with blinking lights at conspicuous levels.

1.05 MAINTENANCE

A. General

Maintain all storage areas, improvements, work areas, and access roads for clear passage and safe functional use.

B. Adequacy

The Engineer and/or On-Site Representative will determine adequacy of maintenance at the property.

PART 2 PRODUCTS

2.01 EQUIPMENT AND COMPONENTS

A. Provide all equipment necessary to conduct all activities specified in this section and Contract Documents. Equipment will include, but not be limited to, trash receptacles, caution tape, plastic barricades, sawhorses, and other related equipment.

B. Provide all incidental components necessary to maintain safe working conditions as specified in this section and Contract Documents, including, but not limited to, fencing silt fencing or straw bundles to prevent erosion.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01700

CONTRACT CLOSE OUT

PART 1 GENERAL

1.1 DESCRIPTION

A. Substantial Completion: The Contractor shall notify the Engineer and the Authority when the Work will be substantially complete and ready for inspection and preparation of a list of minor replacement, correction and adjustment items. The Contractor shall be represented on the job site at the time this inspection is made and thereafter shall complete all Work by the date set for final acceptance by the Authority. Substantial Completion shall be defined as completion of all demolition, major construction, and site restoration, except placement of grass seed.

1.2 CLOSEOUT PROCEDURES

A. Submit written certification that Contract Documents have been reviewed, Work has been inspected, and that Work is complete in accordance with Contract Documents and ready for Authority's inspection.

B. Provide submittals to Authority that are required by governing or other authorities.

C. Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.

1.3. CLEANING

A. Regular Cleaning: All scrap or removed material, debris or rubbish shall be regularly removed from the project at the end of each working day and more frequently whenever the Project Inspector deems such material to be a hazard. No discarded material shall be deposited on the grounds of the Owner without the express permission of the Property Owner, the Authority, the State, or their representatives. No salvage or surplus material may be sold on the premises of the Owner.

B. Final Cleaning: Just prior to final acceptance by the Authority, the Contractor shall remove or restore all areas of the property that were disturbed or damaged by his/her operations and make repairs for any damage or blemish that was caused by the Work.

14. PROJECT RECORD DOCUMENTS

A. Maintain on site, one set of the following record documents; record actual revisions to the Work:

1. Contract Drawings
2. Specifications
3. Addenda
4. Change Orders and other Modifications to the Contract
5. Reviewed shop drawings, product data, and samples

B. Store Record Documents separate from documents used for construction.

C. Record information concurrent with construction/demolition progress.

D. Record Documents and Shop Drawings: Legibly mark each item to record actual construction/demolition including:

1. Measured horizontal and vertical locations of underground utilities (including termination point) and appurtenances referenced to permanent surface improvements.
2. Field changes of dimension and detail.
3. Details not on original Contract Drawings.

E. Submit full accounting of unit cost quantities that are to be reimbursed on a unit rate basis.

F. Submit documents to Authority with claim for final Application for Payment.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

--END OF SECTION--

SECTION 01740

WARRANTIES AND BONDS

PART 1 GENERAL

1.1 DESCRIPTION

The Contractor shall obtain and forward to the Engineer and Authority any documents concerning Guarantee and Indebtedness, and any other special warranties or requirements of the Contract Documents. All required material shall accompany Contractor's request for final payment, including all operation and maintenance data required by the Contract Documents.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

--END OF SECTION--

SECTION 01770

CLOSEOUT PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

Administrative procedures for substantial completion and full completion of specified work.

1.02 RELATED SECTIONS

Section 01560 – Temporary Barriers and Enclosures

1.03 PERFORMANCE REQUIREMENTS

A. Cleanup

Before final acceptance by Authority and Engineer, clean all work areas, storage areas, walls, and floor surfaces that become potentially impacted by material from on-site activities or otherwise dirtied. Repair any damaged materials or building components caused by on-site activities.

B. Demobilization

Demobilize all equipment.

C. Notification

Notify the Authority and Engineer when the Work will be substantially complete and ready for inspection. Be present at the time of the inspection. A list of minor replacement, correction, and adjustment items will be prepared.

D. Follow-up

Complete all listed deficiencies by the date set by the Authority and Engineer for final acceptance.

E. Documentation

Submit all documentation required including but not limited to copies of landfill disposal tickets, waste manifests, fill documentation, inspection and test reports, and permit closeouts.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

--END OF SECTION--

SECTION 01780

CLOSEOUT SUBMITTALS

PART 1 GENERAL

1.01 SECTION INCLUDES

Procedures for closeout submittals and revised project documents.

1.02 RELATED SECTIONS

A. Section 01300 – Submittal Procedures

B. Section 1700 – Contract Closeout

C. Section 01770 – Closeout Procedures

1.03 SUBMITTALS

A. Warranties

Forward special warranties or other requirements of the Contract Documents.

B. Final Invoice

Along with the request for final payment, submit all required material, including operation and maintenance data required by the Contract Documents.

C. Documentation

Submit all documentation required including but not limited to copies of landfill disposal tickets, waste manifests, fill documentation, inspection and test reports, and permit closeouts.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

--END OF SECTION--

SECTION 02000

SITE PREPARATION

PART 1 GENERAL

1.01 SITE PLAN

A. The Contractor shall prepare a site plan indicating the proposed location and dimensions of any area to be used for material stockpiles, employee and/or vehicle/equipment parking/storage, the number of trailers to be used, avenues of ingress/egress to the fenced construction area, vehicle and personnel decontamination units and primary roadways within the site used in the demolition/construction. Any areas anticipated for use as access roads or which may have to be graveled to prevent the tracking of mud shall also be identified and permission gained from the Engineer, the Authority, County, and MDOT as necessary. In addition, the Contractor shall identify the location, size and type of vehicle and personnel decontamination units.

B. Identification of Employees

The Contractor shall be responsible for furnishing to each employee and for requiring each employee engaged on the work to display identification. Identification shall be kept on site during periods when an employee is not engaged in work. Contractor and subcontractor personnel shall wear identifying markings on hard hats clearly identifying the company for whom the employee works.

C. Employee Parking

Contractor employee parking shall not interfere with the progress of work. Vehicles leaving the construction site that become contaminated while within the construction site or vehicles specified by the Engineer shall pass through the vehicle decontamination unit.

D. Sampling and Analytical Testing

All analytical testing as required under this Section shall be paid for by the Contractor. It is the Contractor's responsibility to employ a laboratory for testing and analysis, which routinely provides analytical services acceptable to the Michigan Department of Environmental Quality.

Any confirmatory sampling/analysis necessary will be performed by the Engineer at Engineer's discretion.

1.02 AVAILABILITY AND USE OF UTILITY SERVICES

A. The Contractor shall furnish and install all temporary facilities and controls required by the Work, shall remove them from the Authority property upon completion of the Work, and shall restore the grounds and existing facilities to their original condition.

B. Payment and Utility Services

The Contractor shall arrange for such utilities as required. The amount of each utility service consumed shall be charged to or paid for by the Contractor. The Contractor shall carefully conserve any utilities.

C. Meters and Temporary Connections

The Contractor, at its expense and in a manner satisfactory to the Engineer and Authority, shall provide and maintain necessary temporary connections, distribution lines, meters and meter bases required to measure the amount of each utility used for the purpose of determining charges unless this service is provided by the local utility company. The Contractor shall notify the local utility company in writing at least five (or as required by the respective utility company) working days before final electrical connection is desired so that a utilities contract can be established. Under no circumstances shall the Contractor make the final electrical connection on his/her own.

D. Final Meter Reading

Before completion of the work and final acceptance of the work, the Contractor shall notify the Engineer, in writing, five working days before termination is desired. The Contractor shall take a final meter reading and provide it to the local utility company so that service can be disconnected. The Contractor shall coordinate with the Engineer and the utility company for disconnecting the services. The Contractor shall then remove, in coordination with the utility company, all the temporary distribution lines, meters, meter base(s), and associated material. The Contractor shall pay all outstanding utility bills before final acceptance of the work.

E. Sanitation

The Contractor shall provide and maintain within the construction area minimum field-type sanitary facilities, as necessary. The sanitation facilities shall be per applicable federal, state and local regulatory requirements.

F. Telephone/Facsimile

The Contractor shall make arrangements and pay all costs for telephone/facsimile facilities desired.

1.03 PROJECT SIGNING

A. Bulletin Board

Immediately upon beginning of work, the Contractor shall provide a weatherproof plexi-glass covered bulletin board not less than 915 by 1220 mm (36 by 48 inches) in size for displaying the Equal Employment Opportunity poster, and other information approved by the Engineer. The bulletin board shall be located at the project site in a conspicuous place easily accessible to all employees as approved by the Engineer. Legible copies of the aforementioned data shall be displayed until work is completed. Upon completion of work the bulletin board shall be removed by and remain the property of the Contractor.

B. Project and Safety Signs

The requirements for the signs, their content, and location shall be as shown on the drawings. The signs shall be erected within 15 days after receipt of the notice to proceed. The data required by the safety sign shall be corrected daily, with light colored metallic or non-metallic numerals. Upon completion of the project, the signs shall be removed from the site.

1.04 BARRIER AND ENCLOSURES

A. The Contractor shall furnish, install, and maintain as long as necessary adequate barriers, warning signs, or lights at all dangerous points throughout the Work for protection of property, workers, and the public. The Contractor shall remove such material when deemed no longer required. The Contractor shall hold the Authority harmless from damage or claims arising out of any injury or damage that may be sustained by any person or persons as a result of the Work under the Contract.

B. Temporary Fence: The Contractor shall entirely enclose the Contract area by means an appropriate industry standard fence having a minimum height of six (6) feet. Gates shall be provided at all points of access. Gates shall be closed and secured in place at all times when Work under the Contract is not in progress. The fence shall be removed and grounds restored to original condition upon completion of the Work. Existing fence may be used.

C. Street Barricades: The Contractor shall erect, and maintain all street barricades, signal lights and lane change markers during periods that traffic lanes are closed for operations. There shall be full compliance with rules and ordinances respecting such street barricading and the devices shall be removed when the hazard is no longer present.

1.05 DECONTAMINATION

A. The Contractor shall provide, operate and maintain decontamination units for personnel, equipment and vehicles at the project site as approved by the Engineer. The decontamination unit shall serve to remove, to the best extent possible, contaminated soil and materials from equipment and vehicles before they exit the site.

B. All vehicles that come in contact with contaminated material and/or as specified by the Engineer shall pass through the decontamination unit. Soils or contaminants shall be removed and properly handled by the Contractor. At a minimum, the Contractor shall provide wheel and under carriage wash using high-pressure water or steam. The rinse waters used in the operation shall be collected and stored, sampled and disposed of based on the analytical results of the testing coordinated by the Contractor. All the related costs are incidental to the project.

1.06 SOIL EROSION AND SEDIMENTATION CONTROL

A. Prior to any earth disturbance, install all necessary soil erosion and sedimentation control necessary to prevent eroded soils from leaving the site. Contractor is responsible for obtaining and complying with any necessary soil erosion permits. Contractor is responsible for all soil erosion and sedimentation control, including installation of silt fence, check dams, track-out prevention, and other controls. Contractor must comply with local, state, and federal soil erosion and sedimentation control requirements. Inspect the construction site weekly or within 24 hours after a rainfall greater than 0.5 inches. If erosion has occurred or if sediment accumulation warrants removal, conduct the necessary removal. Upgrade soil erosion and sedimentation controls as necessary to prevent off-site soil transport. Remove or replace soil accordingly. Related soil erosion and sedimentation control and monitoring are incidental to the project.

1.07 DUST CONTROL AND AIR MONITORING

A. The Contractor shall provide necessary engineering controls to prevent emission of aerosol dust and migration of airborne materials off site from contaminating surrounding properties. If necessary, air monitoring shall be performed, at the Contractors expense, to ensure the airborne dust levels do not exceed the regulatory limit. At no time, the concentration of aerosol dust resulted from the Contractor activity shall exceed the 10 mg/M^3 for more 5 minutes during building demolition, waste removal, and soil removal activities. Related dust control and monitoring are incidental to the project.

1.08 PROTECTION AND MAINTENANCE OF TRAFFIC

A. During the project, the Contractor shall maintain and protect traffic on all affected roads during the construction period. Measures for the protection and diversion of traffic, including the provision of watchman and flagmen, erection of barricades, placing of lights around and in front of equipment and the work, and the erection and maintenance of adequate warning, danger, and direction signs, shall be as required by the State and local authorities having jurisdiction. The traveling public shall be protected from damage to person and property. The Contractor's traffic on roads selected for hauling material to and from the site shall interfere as little as possible with public traffic. The Contractor shall investigate the adequacy of existing roads and the allowable load limit on these roads. The Contractor shall be responsible for the repair of any damage to roads caused by construction operations. The Contractor shall minimize public road impacts from construction operations. If non-contaminated soil is being trucked onto public roads, Contractor shall arrange for and supply a street-sweeper/cleaner to maintain the public road. The cleaning operation shall be conducted at least daily or as required and determined by the Engineer. Related street-cleaning operations are incidental to the project.

B. Haul Roads

The Contractor shall, at its own expense, construct access and haul roads necessary for proper prosecution of the work under this contract. Haul roads shall be constructed with suitable grades and widths; sharp curves, blind corners, and dangerous cross traffic shall be avoided. The method of dust control shall be adequate to ensure safe operation at all times.

C. Barricades

The Contractor shall erect and maintain temporary barricades to limit public access to the construction areas. Such barricades shall be required whenever safe public access to paved areas such as roads, parking areas or sidewalks is prevented by construction activities or as otherwise necessary to ensure the safety of both pedestrian and vehicular traffic. Barricades shall be securely placed, clearly visible with adequate illumination to provide sufficient visual warning of the hazard during both day and night.

1.09 TREE AND UNDERBRUSH CLEARING

Tree and brush are present on the property. The Contractor shall clear and remove trees and brush in conjunction with the demolition of the on-site buildings. Trees and brushes removed shall be properly disposed of off-site.

1.10 GENERAL SITE DEBRIS CLEARING

General site debris is present on the property. The Contractor shall clear and remove all debris on the property at the direction of the Engineer and Owner's Representative in conjunction with the demolition of the on-site buildings. General debris removed shall be properly disposed of off-site.

1.11 CONTRACTOR'S TEMPORARY FACILITIES

A. Administrative Field Offices

The Contractor shall provide and maintain separate administrative field office facilities for both themselves and the Engineer/Owner's Representative within the construction area at the designated site, including electrical and telephone services.

B. Appearance of Trailers

Trailers utilized by the Contractor for administrative or material storage purposes shall present a clean and neat exterior appearance and shall be in a state of good repair.

C. Maintenance of Construction Area

Fencing shall be kept in a state of good repair and proper alignment. Should the Contractor elect to traverse with construction equipment or other vehicles grassed or unpaved areas which are not established roadways, such areas shall be covered with a layer of gravel as necessary to prevent rutting and the tracking of mud onto paved or established roadways; gravel gradation shall be at the Contractor's discretion.

D. Security Provisions

The Contractor shall be responsible for the security of its own equipment; in addition, the Contractor shall notify the appropriate law enforcement agency requesting periodic

security checks of the temporary project field office and surrounding area. Other security items, such as lighting, shall be the responsibility of the Contractor including all fees.

E. Storage Facilities

The Contractor shall be responsible for providing and maintaining storage facilities for decontamination water, storm water and other water generated and/or collected on site; and other project related materials and items.

1.12 CLEANUP

A. Construction debris, waste materials, packaging material created by the Contractor and the like shall be removed from the work site daily. Any dirt or mud that is tracked onto paved or surfaced roadways shall be cleaned away. Uncontaminated or decontaminated materials resulting from hazardous material or tank removal activities, which are salvageable, may be stored at the site with Owner's approval. Stored material not in trailers, whether new or salvaged, shall be neatly stacked when stored.

1.13 RESTORATION

A. Upon completion of the project and after removal of trailers, materials, and equipment from within the construction fenced area; the Contractor shall restore impacts to the site caused by the demolition and removal work.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

--END OF SECTION--

SECTION 02021

EQUIPMENT DECONTAMINATION PROCEDURES

PART 1 GENERAL

1.1 RELATED WORK SPECIFIED ELSEWHERE

A. Section 01350 - Special Project Procedures

B. Section 02315 - Excavation, Backfill, and Compaction

C. Section 01110 - Health, Safety, and Emergency Response

1.2 HEALTH AND SAFETY REQUIREMENTS

Completed all work in accordance with Section 01350, "Special Project Procedures”.

1.3 SUBMITTALS

Submit the following in accordance with Section 01330, "Submittal Procedures".

A. Equipment Decontamination Procedures

1. Equipment decontamination procedures shall be submitted as part of the Work Plan and shall detail all equipment and procedures proposed for decontamination of equipment used in contaminated areas. At a minimum, the decontamination procedures shall include:
2. Proposed water supply source and method.
3. Proposed washing equipment and procedures.
4. Proposed decontamination procedures.
5. Decontamination pad plan.

1.4 CONTRACTOR RESPONSIBILITY

A. Equipment - Provide and maintain equipment required for decontaminating and maintaining decontaminating pad and all other facilities and equipment included in the equipment decontamination system. Decontaminate all equipment requiring decontamination, as specified in Paragraph: 3.01 Need for Decontamination.

B. Water Supply - Provide an acceptable supply of decontamination water, ensuring that a minimum of 250 gallons of decontamination water is always available at the site.

PART 2 PRODUCTS

2.1 MISCELLANEOUS EQUIPMENT

Provide all scrub brushes or other equipment necessary to remove contaminated material from the equipment. Dispose all miscellaneous equipment in accordance with applicable or appropriate and relevant disposal regulations for contaminated materials.

PART 3 EXECUTION

3.1 NEED FOR DECONTAMINATION

All equipment within the Exclusion Zone, require decontamination to avoid spreading contamination into uncontaminated areas. All Contractor materials, equipment, and facilities shall be decontaminated, and inspected and approved by the Engineer prior to removal from the Exclusion Zone. Decontaminate all remaining improvements within the Exclusion Zone. All small tools and other materials for which decontamination is difficult or uncertain shall be packaged and disposed of by the Contractor in accordance with applicable or appropriate and relevant disposal regulations for contaminated materials. Examples of such equipment or materials are personal protective equipment, rope, lumber, plastic, etc.

3.2 EXTENT OF DECONTAMINATION

All equipment requiring decontamination, as defined in Paragraph: "Need for Decontamination", shall be washed to the extent that visible contamination is removed from the equipment. Any vehicles exiting the exclusion zone shall be washed to the extent that visible soil is removed from the vehicle body and undercarriage and no visible tracking of soil onto public roads occurs, as verified by the Engineer.

3.3 CERTIFICATES OF DECONTAMINATION

Provide a certificate of decontamination for all equipment and materials removed from the project site . Provide a copy of each decontamination certificate to the Engineer and maintain the original certificate at the Contractor's office.

3.4 DECONTAMINATION PROCEDURES

A. Schedule Construction activities to avoid spreading of contamination into uncontaminated areas. If possible, schedule work so that contaminated media are addressed first, leaving the facility sufficiently clean so that subsequent work can be performed with less potential of spreading of contamination and reduced requirements for decontamination.

B. Decontaminate equipment to avoid spreading contamination onto previously uncontaminated equipment. Rinse small equipment with potable water, wash with a solution of Alconox or other approved non-phosphate detergent and water, and rinse with potable water. Submit Alternative decontamination procedures and methods to the Engineer prior to implementation. Perform decontamination at a specially designated decontamination area as authorized by the Engineer, and determined at the commencement of construction activities.

3.05 STORAGE AND DISPOSAL OF DECONTAMINATION FLUIDS

Decontamination fluids shall be disposed of in accordance with applicable laws and regulations.

--END OF SECTION--

SECTION 02025

MOBILIZATION & DEMOBILIZATION

PART 1 GENERAL

1.01 MOBILIZATION/DEMOBILIZATION

A. Section 00800– Summary of Work
B. Section 00400 – Bid Worksheet

In general, this item includes the provision of labor, materials, and equipment necessary to complete the work described in this quotation document. The work item "Mobilization / Demobilization" also includes incidental items such as trash removal (site clean-up), erosion controls, dust controls, temporary utilities and facilities, and project administration.

PART 2 PRODUCTS

(Not Used)

PART 3 EXECUTION

3.01 Site Access

A. The Contractor shall construct as needed and maintain access roads used for construction traffic.
B. The Contractor shall provide security items (fencing, signage, etc.) as needed to prevent unauthorized access to the site.

3.02 Dust Control

A. Dust generation shall be eliminated in the work area, resulting from grading, equipment movement, stockpiles, demolition or other elements of the work.
B. Dust control methods may include any or all of the following:
    1. Chemical application such as calcium chloride;
    2. Water spray (owner will provide limited water source for use in dust control)
    3. Other method approved by Engineer.

3.03 Temporary Facilities and Miscellaneous Items

A. Contractor shall provide facilities, utilities, and other miscellaneous items for his crew as needed to complete the work, and to provide health and safety for his workers. This may include potable water, communications, and other temporary utilities.

    1. Electricity, water, and sewer are not available at the work area.

    2. Groundwater is contaminated and shall not be used for potable water, watering activities, or other construction needs.

B. Contractor shall fully remove all temporary facilities, utilities, and other miscellaneous items upon completion of the work, as part of his equipment demobilization.

C. As part of this item, Contractor shall provide full-time, qualified supervision and field management for this project. The field supervisor shall cooperate with Engineer and Owner's personnel to ensure a well-run project. Field supervisor shall also be responsible for worker safety meetings and implementation of safety measures.

--END OF SECTION--

SECTION 02050

DEMOLITION

PART 1 GENERAL

1.1 WORK INCLUDED

A. Demolition of Structures

The following list of items to be demolished to grade including related items is a single unit of work.

- The specific building structures as indicated on Bidding Document and Maps
- site features including private light poles, private utility poles, flag poles, fencing, signs, other features, and debris;
- Private utilities
- Any miscellaneous debris located on the site;
- Building slabs, foundations, basements, and subsurface features;
- Concrete paving, sidewalks, and private curbing;
- Guard rail, guard rail posts, and foundations; and
- Pavement areas as indicated on Bidding Document.

B. Grubbing and removal of trees, brush, and vegetation to boundary of work area.

C. Removal and disposal of the building materials and debris including the removal and disposal of all miscellaneous site debris, including not limited to building area debris, woods, piping materials, bricks, roof materials, metal equipment and all other non-specified material and debris found at the site.

D. Removal and disposal of the building debris and concrete materials generated by the demolition of the structures listed above. Removal and disposal of concrete, rebar, and steel is incidental to the project. It is recommended that steel be recycled. The Contractor may recycle concrete and asphalt and other legal products to reduce its cost. Any stained contaminated building materials, however, must be disposed.

E. The contractor has salvage rights to all legal salvageable equipment, electrical equipment, metals, salable items, and other recyclable materials.

F. Submittal, sampling, analytical, and manifesting as related to demolition, removal and disposal of all building and structure debris and materials.

G. Perform dust control during the entire period of the demolition and removal operation.

H. Stage hazardous material removal from the subject buildings as appropriate to conduct the project by best methods.

1.2 SUBMITTALS

A. Work Plan; SA

Prior to proceeding with the demolition, removal and disposal work, the Contractor shall submit a work plan which includes the means, methods and procedures proposed for the accomplishment of the removal and disposal work. The means, methods and procedures shall provide for safe conduct of the work; careful removal and disposition of buildings and structures, and solid materials and wastes; and protection of property that is to remain undisturbed. The procedures shall provide a detailed description of the methods and equipment to be used for each operation, and the sequence of operations. The name and location of disposal facilities for all removed materials shall be submitted in the Work Plan. The work plan shall be based on work experience, and the guidance provided in this specification. The cost of work plan preparation is incidental to the project.

B. Inspection Reports

The Contractor shall provide a copy of the records of inspections and tests, as well as records of any corrective action taken to address any problems encountered.

C. Disposal Documents

The Contractor shall provide copies of all licenses, certifications, permits, agreements, manifests, chain of custody records, weigh tickets, meter recordings, delivery tickets, and receipts required or issued for the disposal of materials, the methods used, and the disposal areas and facilities. The Contractor shall also provide a copy of the results of tests performed to comply with the requirements of each disposal facility.

D. Manifests

The Contractor shall submit a copy of the official manifest for each shipment of removed materials including, but not limited to, building and structure debris, concrete and brick debris, and miscellaneous site debris and solid wastes evidencing delivery of the material to an approved licensed disposal facility. All manifests shall be in accordance with the requirements of all the applicable federal, state, and local regulations. Manifests shall be signed by the Authority or by the Authority's Representative.

1.3 PROJECT/SITE CONDITIONS

The Contractor shall carefully coordinate the work in this Section with all other work. The work shall be complied with OSHA regulations and other applicable safety requirements. Representative of utility owners shall verify and approve all disconnections.

A. Electrical Disconnection

The Contractor shall verify that on site electrical wiring entering all structures to be demolished or in close enough proximity to be damaged by the demolition operations shall be disconnected and/or de-energized prior to proceeding with demolition operations. The Contractor shall coordinate with the local electrical utility company for any necessary relocation of utilities and be responsible for any associated fees or expenses.

B. Water Disconnection

The Contractor shall verify that on site water lines entering all structures or in close enough proximity to be damaged by the demolition operations shall be disconnected and/or capped prior to proceeding with demolition operations. The Contractor shall coordinate with the utility provider for any necessary relocation of utilities and be responsible for any associated fees or expenses.

C. Sewer Disconnection

The Contractor shall locate and bulkhead all sewer connections from the building structure prior to proceeding to demolition. The work shall be performed between the roadway and curb line of city sewer in accordance with the City Wastewater and Sewerage Standard. Permits shall be obtained from the Local Municipality and any damage or removal of sidewalk or curbs shall be repaired. The Contractor shall coordinate with the utility provider for any necessary relocation of utilities and be responsible for any associated fees or expenses.

D. Gas Disconnection

The Contractor shall verify that on site gas lines/mains entering all structures or in close enough proximity to be damaged as a result of the demolition operations shall be disconnected and/or capped prior to proceeding with demolition operations. The Contractor shall coordinate with the local electrical utility company for any necessary relocation of utilities and be responsible for any associated fees or expenses.

E. Telephone and Cable Disconnection

The Contractor shall verify that on site telephone and cable lines entering all structures or in close enough proximity to be damaged as a result of the demolition operations shall be disconnected and/or capped prior to proceeding with demolition operations. The Contractor shall coordinate with the local telephone and cable companies for any necessary relocation of utilities and be responsible for any associated fees or expenses.

1.4 GENERAL REQUIREMENTS

A. The work includes demolition and removal of resulting rubbish and debris. Rubbish and debris shall be removed from the property daily, unless otherwise directed, to avoid accumulation at the demolition site. Materials that cannot be removed daily shall be stored in areas as approved by the Engineer. In the interest of safety the work shall be performed with regard to the protection of personnel and property.

B. Dust Control and Air Monitoring

The Contractor shall take all necessary means and procedures to control dust and avoid airborne dust from impacting the surrounding properties as a result of his demolition operations. The Contractor shall provide necessary engineering controls to prevent emission of aerosol dust and migration of airborne materials off site from contaminating

surrounding properties. If necessary, air monitoring shall be performed, at the Contractors expense, to ensure the airborne dust levels do not exceed the regulatory limit. At no time, shall the concentration of aerosol dust resulting from the Contractor's activity exceed 10 mg/M^3 for more 5 minutes during the demolition/construction operation. Dust control and monitoring are incidental to the project.

C. Protection of Personnel

During the demolition work the Contractor shall continuously evaluate the conditions of the items being demolished and take immediate action to protect all personnel working in and around the demolition site. No area, section, or component of floors, walls, or other structural elements will be allowed to be left standing without sufficient bracing, shoring, or lateral supporting to prevent collapse or failure while personnel perform other work in the immediate area. The Contractor shall ensure that no elements determined to be unstable are left unsupported and shall be responsible for placing and securing bracing, shoring, or lateral supports as may be required as a result of any cutting, removal, or demolition work performed under this contract.

D. Protection of Existing Work

Before beginning any demolition, the Contractor shall carefully survey the existing work and examine the drawings and specifications to determine the extent of work.

Protect site features indicated in Contract Documents including existing storm water catch basins and lines.

E. Ownership and Salvaging

The Contractor shall have claim to any items or components of items to be demolished as well as debris. The Contractor shall be responsible for the removal and disposal of materials and debris in a fashion that complies with all local, State and Federal Codes and Regulations. Ownership of items and materials to be removed by the Contractor does not transfer to the Contractor until such items and materials are physically removed from the site.

The contractor has salvage rights to all salvageable restaurant equipment, electrical equipment, metals, salable items, and other recyclable materials.

F. Sequencing and Scheduling

The scheduling and sequencing of work should not interfere with other site activities that are occurring concurrently with this phase of the work. Contractor shall perform work in such a way so that any hazardous materials, materials banned from landfill disposal, asbestos, or contaminated materials discovered on site, or as specified by the Engineer shall be removed or cleaned-up prior to demolition or debris removal to protect the safety and health of all personnel. Liquids accumulated in building components, site features, the sub grade areas or excavations shall be removed prior to demolition of buildings.

G. Burning

Burning waste and debris materials at this site is prohibited.

H. Noise Control

The Contractor shall eliminate noise to as great an extent as possible at all times. In the vicinity of hospitals, libraries, and school precautions shall be taken to avoid noise and other nuisance and the Contractor shall require strict observance of all pertaining ordinances and regulations.

I. Explosives

The use of explosives at this site must be approved by Authority and Engineer and permitted by all governing authorities. Explosives shall not be brought to site or used without written consent of authorities having jurisdiction. Such written consent will not relieve Contractor of total responsibility for injury to persons or for damage to property due to blasting operations. The performance of any required blasting shall comply with governing regulations.

1.5 PERMITS

The permits described here cover the general description of the permits called for demolition. The permits described below are not necessarily all of the permits required for completion of this project.

A. Demolition Permit

The Contractor shall be responsible for obtaining a Demolition permit from the Local Municipality Building Department. The Contractor is responsible for all permit fees.

B NESHAP Notification of Intent to Renovate/Demolish

The Contractor shall be responsible for filling and for the fee involved with submitting and obtaining a Notification of Intent to Renovate/Demolish permit from the State of Michigan. The notification shall describe the demolition tasks to be conducted and the quantities of asbestos containing materials specified for abatement.

C. Soil Erosion and Sedimentation Control

The contractor shall be responsible for filing and for the fee involved with obtaining soil erosion and sedimentation control permits the Local Municipality and the State of Michigan.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 DUST CONTROL

A. The Contractor shall employ all necessary engineering controls and misting operations to prevent emission of dust and migration of airborne materials off site from impacting surrounding properties.

B. Constant watering for the site may be required to prevent dust emission during the demolition and removal operations. The water for dust control may be available for use from the fire hydrants located in the area. The Contractor shall verify with the Local Municipality for water availability and pay for the use of the municipal water. The Contractor shall pay costs for installation and removal of any temporary connections including necessary safety devices and controls. Use of the municipal water shall not disrupt or interfere with operations of the surrounding property owners. Use of water shall not result in or create hazardous or objectionable conditions such as ice, flooding, pollution and electrical shock.

C. If the Contractor wants temporarily to stockpile any demolition debris and pulverized concrete materials that may generate dust at the site, the stockpiles shall be covered with a 10 mil plastic sheet.

3.2 DEMOLITION AND REMOVAL

A. Buildings and Structures

The Contractor shall demolish and remove all buildings and structures as specified in Part 1.1, the Contract Documents, and Site Maps. The building floor slabs, and concrete slabs shall be demolished and removed in their entirety. The Contractor shall excavate and remove any building and foundations, and walls. Flooring constructed of wood, wood blocks, or brick shall be removed and disposed of. All components or elements of structures, buildings, vaults, pits settling and basins to remain shall be removed to at least four feet below grade, unless otherwise approved by Engineer. Debris located or contained within basements, reservoirs, pits or voids shall be removed. Unsuitable debris will be removed and disposed of in their entirety. Debris piles encountered on the top of concrete surfaces shall be removed in their entirety. Removal of structural steel and reinforcing steel from concrete is incidental to the project.

B. Utilities

Underground utility lines such as for water, sewer and gas and water as well as conduit extending above grade shall be cut off at least two feet below ground at the property line and plugged with leak-proof devices. Below ground utilities shall be removed to the property line or mail. Utilities entering the building basement shall be removed and plugged with leak-proof devices. The Contractor shall identify any active utilities on the site and be responsible for the protection of workers and deactivation of utilities as necessary for the safe conduct of work.

The Contractor shall locate and bulkhead all sewer connections from the property prior to proceeding with demolition operations. The Contractor shall properly abandon all utilities encountered including those discovered during demolition activities. Septic tanks, potable wells, heating oil tanks, or similar items discovered during on-site activities shall be reported to the Engineer and properly abandoned prior to proceeding with demolition operations.

C. Asbestos Containing Materials

The removal and disposal of asbestos materials, as specified in Section 13281, shall be completed prior to beginning demolition work of structures containing asbestos materials.

D. Hazardous Contaminated Materials

Any potentially hazardous or contaminated materials not specified which are discovered or unearthed during the demolition and removal operations shall immediately be brought to the attention of the Authority and Engineer.

All building demolition and removal work shall be performed in compliance with the OSHA Interim Final Rule, 29 CFR 1926.62, on Lead Exposure in Construction published in the Federal Register.

Care must be taken to prevent the mixture of non-hazardous debris and waste materials with regulated hazardous materials. Non-hazardous materials must also be prevented from coming in contact with materials identified as being hazardous, so as to prevent increasing the volume of hazardous materials (by contact).

The Contractor shall remove, segregate from other material, and properly dispose of material banned from landfill disposal and other hazardous materials. The method and order for removal and disposal of hazardous material shall be the responsibility of the contractor.

PCB contaminated materials, if encountered, shall be removed, segregated from other debris, and disposed of in a licensed TSCA landfill. The selected, licensed TSCA disposal facility shall be approved by the Engineer. All handling, and disposal, waste manifesting, and recording requirements, as set forth in 40 CFR 761 – PCB Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions and as specified in Section 13282, shall be followed.

D. Utility Pole

The Contractor shall identify and locate the utility company who owns the overhead utility poles located on the property if removal of the utility pole is necessary for demolition activities. The Contractor shall contact the utility company to arrange for the removal of the overhead utility pole and connecting wires located on the property. The Contractor shall be responsible for all costs of removal of the overhead pole and connecting wires if either Contractor or the utility company performs the works.

3.3 RECYCLING

Authority encourages the recycling of building components and demolition debris where appropriate. The Contractor has the option to recycle any material found or demolished on site in order to reduce his/her costs or project duration. Although the materials are not limited, it is recommended that at least steel and concrete be recycled. Steel and concrete to be recycled can be stockpiled on site and eventually removed. Steel separated from demolition rubble may be recycled and becomes the property of the Contractor. The Contractor will not be allowed to abate on site any lead, cadmium, or other paint found on the steel unless appropriate procedures and federal, state and local codes or regulations are followed. Any material stockpiled for recycling shall be removed from the site prior to the contract end date and/or site restoration.

3.4 CONSTRUCTION WATER

Water used in demolition operations to control the emission of airborne dust shall be in accordance with all Federal, State, and local codes and regulations. Water used for the removal of asbestos materials shall be collected and processed in accordance with specific Federal and State requirements with respective to the asbestos abatement.

3.5 DISPOSAL

The buildings, structures, and debris piles required to be demolished and removed and all miscellaneous inert debris, waste and unsatisfactory materials resulting from this work shall be removed from the site, unless otherwise specified or directed by the Engineer, and upon removal shall become property of the Contractor. All disposals shall conform to Federal, State, and local requirements. All removed materials shall be documented by manifests and disposal facility receipts with copies given to the Engineer.

3.6 QUALITY CONTROL

The Contractor shall establish and maintain a quality control system for contract requirements and maintain records of its quality control for all operations performed, including, but not limiting to, to following:

- Electrical, gas, and water disconnection verified.
- Dust Control.
- Aerosol and asbestos air monitoring.
- Noise and vibration control.
- Demolition, removal, and cleanup.
- Disposal.
- Observance of safety regulations.
- Observance of environmental regulations.

--END OF SECTION--

SECTION 02075

CONTAMINATED SOIL

PART 1 GENERAL

1.1 DESCRIPTION

A. Excavation, removal and disposal of contaminated soil as determined by the Authority or Engineer.

B. The Contractor shall characterize for disposal all excavated contaminated soil. For purposes of this bid, contaminated soils have been considered to be non-hazardous with disposal at a Type II Landfill.

1.2 SUBMITTALS

A. The following shall be submitted in accordance with Section 01330 Submittal Procedures.

B. The Contractor shall submit all analytical results for excavated soil disposal.

C. The Contractor shall submit all waste profiles, manifests, and disposal receipts.

D. The Contractor shall submit records of all inspections by regulatory authorities and notices of violation.

PART 2 PRODUCTS

2.1 BACKFILL MATERIAL

A. Backfill material should be provided as outlined in Section 2200 Earthwork and 2221 Backfilling, and Compaction.

PART 3 EXECUTION

3.1 GENERAL

Contaminated soils shall be excavated based on the field observation or as specified in Contract Documents and Site Maps. The excavation and removal of any contaminated soils shall be performed as directed by the Engineer or Authority.

3.2 EXCAVATION, REMOVAL AND DISPOSAL

A. Preparation

1. The Contractor shall contact the Miss Dig and other applicable local utility companies/authorities for utility identification a minimum of three working days prior to any excavations. The Contractor shall comply with 1974 PA 53, as amended, MCL 460-701 et seq., and all other laws concerning underground utilities.

2. The Contractor shall take extreme care during the site activities to prevent cross contamination. Adequate measures shall be taken to remove water from these areas in accordance with all governing regulations.

B. Protection

1. The Contractor shall provide, secure, temporary fence to block each excavation at the end of each workday. Excavations should be checked each day for adequacy of protection. Cost is incident to the project.

2. Grade excavation perimeter to prevent surface water run-off entering into excavation.

3. Protect the public and underground utilities from hazards related to the excavation activities.

C. Excavation and Removal

1. If any USTs have been excavated and removed, the Engineer shall examine for any contamination in surrounding soils. The Engineer will determine if the soil is required to be excavated and the extent of contaminated soil to be excavated. Any evidence indicating contamination shall be reported to the Engineer the same day it is discovered.

2. The Engineer shall monitor the excavation visually and olfacturily, as well as with a photoionization detector (PID) or frame ionization detector (FID). If the any volatile organic carbons are detected above background levels, or if the Engineer detects any contamination through visual or olfactory senses then this will constitute "contaminated soil." This monitoring will be performed for Engineer’s information, the Contractor shall provide for its own monitoring requirements.

3. The Contractor shall backfill the excavation in accordance to Section 02200 and as directed by Engineer in writing.

4. Excavated contaminated soil shall be stored separately from those materials believed to be clean. All contaminated soils shall be handled in a manner such that further contamination of areas outside of the storage area is prohibited. Any further site contamination due to the Contractor's negligence to control such contamination shall be corrected at the Contractor's expense. Stockpiles shall be sloped to minimize creeping or sloughing of the soils and shall clearly mark the contaminated and uncontaminated stockpiles.

5. The excavated contaminated soil shall be temporarily stockpiled on a plastic (6 mil minimum thickness) resistant to petroleum products, with a 3-ft-wide, soil-free perimeter of plastic around the stockpiles as a minimum. The stockpile shall also be completely covered with a double layer of the plastic anchored securely to protect the stockpile against wind and precipitation. Diking or other measures

shall be used to prevent surface runoff from flowing onto the liners on which the soil is placed. Where several sheets of plastic are necessary to cover or lie on the stockpiles, the edges shall overlap a minimum of 2 feet. Once the stockpile has been covered, the soil-free perimeter of the liner shall be secured with concrete blocks or other suitable items. The Contractor, under the direction of the Engineer, shall daily inspect the liners and covers for defects and damage. Should any tears, defects, or other damages be found, the Contractor shall replace or repair the damaged plastic sheets at no additional cost to the Authority.

D. Disposal

1. Disposal of contaminated soil shall be in accordance with all Local, State, and Federal solid and hazardous waste laws and regulations, including Resource Conservation and Recovery Act (RCRA), and conditions specified herein.

2. The Contractor shall collect and analyze samples of excavated contaminated soil for disposal parameters. Sampling and analysis of excavated soil shall be performed per Section 3.3 Soil Examination, Testing and Analysis.

3.3 SOIL EXAMINATION, TESTING AND ANALYSIS

A. General

Confirmatory sampling and analysis for the excavated areas are the Engineer's responsibility. The soil sampling and testing will be performed by the Engineer. Contractor must coordinate site activities with Engineer to allow for proper sampling and analysis.

B. Excavated Contaminated Soil

Unless otherwise provided, sampling and analysis necessary for disposal and/or waste characterization of the excavated contaminated soil is the Contractor's responsibility. Sampling locations, number and specific procedures shall be as required by the disposal facility and the State of Michigan. The cost associated with sampling and analysis shall be incidental to the work.

--END OF SECTION--

SECTION 02080

OFFSITE TRANSPORTATION AND DISPOSAL

PART 1 GENERAL

1.1 WORK INCLUDED

A. Insure that all vehicles entering and leaving the site comply with all safety requirements and licensing requirements of the local, state and federal regulations.

B. Prepare vehicles to prevent spillage or contamination.

C. Inspect vehicles before leaving the site.

D. Transport equipment to and from the site.

E. Transport liquids, sludge and other hazardous or non-hazardous materials from the site to an approved facility.

1.2 SUBMITTALS

A. Submit the names of the disposal facilities to the Engineer or Authority for review and comment at least a week before the disposal operation is conducted.

B. Submit the transportation routes to the selected solid and liquid disposal facilities to the Engineer for review and comment.

C. Submit to Engineer or Authority for review and comment, a Spill Contingency Plan for transportation of solids and liquid. The Plan shall address all the potential hazards, necessary actions to follow in case of spills and emergency phone numbers enroute.

D. Submit copies of all manifests and bill of lading to Engineer or Authority.

E. If necessary, submit a plan to decontaminate the vehicle wheels. These procedures could be identified in the overall decontamination plan.

1.3 PROJECT RECORD DOCUMENTATION

A. Record weight, volume and character of material disposed.

B. Provide documentation that measuring devices used, are certified by the appropriate state inspection agency.

C. The Contractor shall provide to the Engineer or Authority written documentation and records verifying receipt and the quantity received of each load at the disposal facility and verification of proper disposal. Copies of the actual receipt must be provided.

D. The Contractor shall prepare and maintain accurate manifests or bill of lading for each batch of the waste materials being transported and disposed of. The Contractor is responsible for

obtaining the Engineer or the Authority signatures on manifests for transportation and disposal purposes.

E. All the materials shall be sampled and analyzed in accordance with the disposal requirements as directed by the Engineer or Authority. The testing parameters shall be determined based on the potential for presence of the respective contaminants.

PART 2 PRODUCTS

2.1 EQUIPMENT

A. The Contractor shall provide equipment, personnel and facilities necessary to handle and load materials for transport.

PART 3 EXECUTION

3.1 GENERAL

A. Transportation and disposal of all hazardous materials shall comply with the regulations as specified in Section 01120.

3.2 LOADING AND HAULING

A. Inspect haul vehicles for soil adhesion to wheels and under carriage. These soils shall be removed and properly handled by the Contractor before leaving site. The decontamination procedures shall be carried out at the decontamination zone.

B. At a minimum, provide wheel wash down using high pressure water and steam. All rinse waters are to be collected for temporary storage prior to disposal. The Contractor will sample collected rinse waters to ensure proper disposal. Contractor shall be responsible for the disposal and any associated testing.

C. No transport vehicles shall be allowed to leave the site which are leaking or spilling materials.

D. All transport vehicles shall be in strict conformance with all the applicable federal, state and local Laws.

E. The Contractor shall keep accurate records for the following information: Type and quantity of materials and liquids removed from the site. Engineer or Authority approval is required before any liquid or material leaves the site.

F. The Contractor shall provide the Engineer or Authority with copies of the above records, all permits required, manifests, waste hauling permits, and necessary affidavit regarding the waste materials, including liquid disposal.

G. All transport vehicles shall be cleaned before filling with waste material.

H. Prior to transportation, all of the established pretransporation requirements shall be met.

I. The waste shall be transported by a certified waste hauler in approved containers.

3.3 DISPOSAL

A. All disposal shall conform to Federal, State and local government regulations.

B. For hazardous or non-hazardous contaminated wastes the Contractor shall utilize a State of Michigan approved manifest system (such as the uniform hazardous waste manifest form (8700-22)) so that the waste can be tracked from generation to ultimate disposal. The manifest shall comply with all of the provisions of the transportation and disposal regulations. All transporters must sign the appropriate portions of the manifest and must comply with all of the provisions established in the applicable regulations. Contaminated waste manifests must be signed by the Authority or Authority's designee.

C. All hazardous and non-hazardous materials shall be disposed of at an approved licensed disposal facility.

D. Arrangements for disposal shall be performed by the Contractor.

E. Disposal of any material at a non-licensed facility or at private property is strictly prohibited under this contract. Written approval from the Engineer and Authority would be necessary prior to any deviation from this requirement.

3.4 SPILLS

A. The Contractor is responsible for cleaning up all the leaks, spills from containers and other items on site or off site that occur , whether due to the Contractor's negligence or not. Immediate containment actions shall be taken as necessary to minimize the effect of any spill or leak. The Contractor shall notify the Engineer, Authority and appropriate governmental authorities of the incident. Cleanup shall be in accordance with applicable Federal, State, and local laws and regulations at no additional cost to the Authority.

--END OF SECTION--

SECTION 02115

STORAGE TANK REMOVAL

PART 1 GENERAL

1.1 SECTION INCLUDES SPECIFIC INFORMATION FOR SITES WITH KNOWN USTS

A. No storage tanks are known to exist on this property. This section is included in the event an abandoned storage tank is discovered during site activities.

1.2 RELATED SECTIONS

A. Section 01340 - Health, Safety, and Emergency Response

B. Section 01450 – Quality Control

C. Section 02315 – Excavation and Fill

1.3 REFERENCE STANDARDS

The publications listed below form a part of this Section to the extent referenced. The publications are referenced in the text by basic designation only.

A. American Petroleum Institute (API)

1. API RP 1604, Removal and Disposal of Used Underground Petroleum Storage Tanks.
2. API Publ 1628, Guide to Assessment and Remediation of Underground Petroleum Releases.
3. APR Rp 2003, Protection Against Ignitions Arising out of Static, Lightning and Stray Currents.
4. API Publ 2015, Safe Entry and Cleaning Petroleum Storage Tanks.
5. API Publ 2015A, A Guide for Controlling the Lead Hazard Associated with Tank Entry and Cleaning.
6. API Publ 2202, Guidelines for Protecting Against Lead Hazard When Dismantling and Disposing of Steel from Tanks that have Contained Leaded Gasoline.
7. API Publ 2217, Guidelines for Confined space Work in the Petroleum Industry.
8. API Publ 2219, Safe Operation of Vacuum Trucks in Petroleum Service.

B. Code of Federal Regulations (CFR)

1. CFR 29 CFR 1910.146 OSHA - Permit Required Confined Spaces.
2. CFR 29 CFR 1926/1910 Construction Industry Occupational Safety and Health Standards.
3. CFR 40 CFR 260 General Regulations for Hazardous Waste Management.
4. CFR 40 CFR Part 261 Identification and Listing of Hazardous Waste.
5. CFR 40 CFR Part 262 Standards Applicable to Generators of Hazardous Waste.
6. CFR 40 CFR Part 263 Standards Applicable to Transporters of Hazardous Waste.
7. CFR 40 CFR Part 264 Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities.

8. CFR 40 CFR Part 265 Interim Status Standards for owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities.

9. CFR 40 CFR Part 280 Technical Standards and Corrective Action Requirements for Owners and Operators of Underground Storage Tanks (UST).

10. CFR 49 CFR 171 Department of Transportation Regulations to Stipulate Requirements for Containers and Procedure for Shipment of Hazardous Waste.

11. CFR 40 CFR Part 761 Polychlorinated Biphenyls (PCB) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions.

C. National Fire Protection Association (NFPA)

1. NFPA 30 (1990) Flammable and Combustible Liquids Code.

2. NFPA 70 B (1990) Recommended Practice for Electrical Equipment Maintenance.

3. NFPA 325M (1991) Fire Hazard Properties of Flammable Liquids, Gases, and Volatile Solids.

4. NFPA 327 (1987) Standard Procedures for Cleaning or Safeguarding Small Tanks and Containers.

5. NFPA 329 (1992) Recommended Practice for Handling Underground Releases of Flammable and Combustible Liquids.

D. National Institute of Occupational Safety and Health (NIOSH)

1. NIOSH 80-106 Criteria for a Recommended Standard for Working in Confined Spaces.

E. State of Michigan

1. P.A. Act 451, Michigan Natural Resources and Environmental Protection Act

2. MIOSHA Act 154 General Industry and Construction (as amended) Safety Standards.

F. United States Environmental Protection Agency

1. U.S. EPA SW-846, Test Methods for Evaluating Solid Waste.

1.4 SUBMITTALS

A. Tanks and Associated Piping

After removing and disposing tank, piping, and tank supports from the project site, submit the name and location of the properly licensed disposal or recycling facility or facilities if necessary, and a copy of the written agreement from the facility(s) agreeing to accept the materials. This documentation shall include manifests with quantities agreed by the Engineer or Authority. The documentation is due 10 days after removal from the site.

B. Disposal Documents

Provide copies of all licenses, certificates, permits, agreements, manifests, chain of custody records, weigh tickets, meter recordings, delivery tickets, and receipts required or issued for material disposal. Provide a list of the equipment used, the methods used, and the disposal areas and facilities used for disposing tanks, contents, and associated piping. Provide a copy of the results of tests performed to comply with the requirements of each disposal facility.

C. Manifests

Submit a copy of the official manifest for each shipment of contaminated materials including, but not limited to, surface runoff, tank, drum contents, expended cleaning liquids, structural components, tanks and piping, drums and cans evidencing delivery of the material to the approved licensed disposal facility. All manifests shall be in accordance with the requirements of 40 CFR, Part 262, 40 CFR, Part 761, Section 23 and State and local regulations. Manifests shall be signed by the Authority or Engineer.

1.5 REGULATORY REQUIREMENTS

A. Notifications

Provide all necessary notifications for UST removal, including those required under Michigan Public Act 451, Part 211.

B. Statutes and Regulations

Tank removal work shall be carried out in accordance with the requirements identified in applicable parts of 49 CFR, and amended DOT regulations, 29 CFR Parts 1910 and 1926 and 40 CFR Part 280 as well as the applicable local and State of Michigan regulations. Hazardous material shall be transported in accordance with 40 CFR Part 263 to disposal facilities that operate in accordance with 40 CFR Part 264 and 40 CFR Part 265. All licenses, permits, certifications, receipts, etc., shall be obtained as required by such laws, regulations, codes, and ordinances.

C. General

Comply with all health and safety regulations relating to the removal, transportation, and disposal of tanks contained in 29 CFR Parts 1926 and 1910 at all times. Follow all pertinent regulations, such as 29 CFR Parts 1910 and 1926 and 40 CFR 260, 261, 262, 263, 264, 761 and applicable state and local regulations while storing, containing, and handling small containers for maintaining equipment for handling materials.

D. Protection of Employees and Visitors

Address the work in a manner such that its employees and site visitors will not be subjected to hazardous and unsafe conditions. Comply with all safety precautions, as required by 29 CFR Parts 1926 and 1910 and NFPA 329.

E. Toxicity Considerations

Exercise care to minimize exposure to volatile organics, lead-based paint, asbestos-containing material, and toxic metals when present during the handling of used tanks or drums. Refer to API Publication 1604, Paragraph 1.3 for recommended health precautions for tanks.

F. Flammability and Combustibility Considerations

Flammable and combustible vapors are likely to accumulate in tank work areas. Exercise caution by observing the following precautions: (a) eliminate all potential sources of ignition within the area; (b) present the discharge of static electricity during venting of flammable and combustible vapors; and (c) prevent the accumulation of vapors at ground level. Refer to API Publication 2015, 2015A and Recommended Practice 2003 for precautionary measures to follow during vapor-freeing procedures. All open flame and spark-producing equipment is to be shut down and all electrical equipment must be explosion proof in compliance with NFPA 70B Class I, Division I, Group D or otherwise approved for use in potentially explosive atmospheres.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 GENERAL

Remove all liquid and solid material contained within the tanks. Properly clean all contaminants from the tanks in accordance with Federal, State, and local regulations.

Remove and dispose all tanks and tank contents at an approved recycle or disposal facility. Obtain all required permits and approval documents. Provide approved containers, vehicles, equipment, labor, signs, placards, labels, manifests, and other documents necessary for accomplishing the work including materials necessary for spill cleanup for material from removal operations. Coordinate any additional sampling that may be necessary.

A. Safety Guidelines

Personnel working inside and in the general vicinity of the UST excavation shall be trained and made thoroughly familiar with the safety precautions, procedures, and equipment required for controlling the potential hazards associated with this work. Personnel shall use proper protection and safety equipment during work in and around the tanks as specified in API Publication 2217, AP RP 1604, and in their health and safety plans. Proper guidelines regarding safety precautions shall be required for handling all other items.

B. Control of the Work

Perform work in accordance with the requirements and specifications and take direction only from the Resident Project Representative for this contract. Any other party that proposes to give direction to the contractor shall be immediately referred to Project Representative.

3.2 CONTENTS VERIFICATION

Collect samples to the extent required by the approved off-site disposal facility receiving the material. All analytical testing as required under this section shall be paid for by the Contractor and is incidental to the Contract. The analysis shall require a 5 working day completion time from the date of sample receipt at the laboratory. Meet all regulatory requirements, including manifesting.

3.3 EXAMINATION

Collect samples of tank contents, only if and to the extent such testing is required by the approved disposal facility for the material to be disposed. Perform all testing as described in Subpart 3.02.A. All documentation regarding the sampling and analysis such as sample locations, rationale, chain-of-custody, test results, etc., shall be maintained by the Contractor. A copy of all such test reports shall be furnished to the Resident Project Representative prior to removal of tank contents.

3.4 TANK PREPARATION AND REMOVAL

A. Draining of Pipes

During removal of tank contents for disposal, drain or blow down piping product into tank, being careful to avoid any spillage. Cap the inlet end of the piping connected to the tank after emptying the piping product into the tank.

B. Removal of Tank Contents

Remove any existing water, fuel, other fluids, solids, and residues from existing tanks and pipes in a safe and proper manor. Minimize the threat of releasing flammable, hazardous, toxic, or otherwise harmful substances to the atmosphere, land surface, waterways, or any other portion of the environment.

Remove and dispose tank contents before excavating or otherwise disturbing the tanks. Remove liquids, solids, and residues by using explosion-proof pumps and excavation equipment. For liquids or pumpable solids, pump motors and suction hoses must be bonded to tank or otherwise grounded to prevent electrostatic ignition hazards. It may be necessary to use a hand pump to remove the last few inches of liquid from the bottom of a tank. If a vacuum truck is used for removal of liquids or residues, the area of operation for the vacuum truck must be vapor-free. The truck shall be located upwind from tank and outside the path of probable vapor travel. The vacuum pump exhaust gases shall be discharged through a hose of adequate size and length downwind of the truck and tank area. See API Publication 2219 for vacuum truck operation and safety practices.

Steam and/or detergent solvent solutions may be used to aid in cleaning provided they are disposed as tank contents and do not introduce hazardous substances. Residues on the interior of tank and associated piping shall be removed to the degree of cleanliness required by applicable regulations and the requirements of tank and piping disposal facilities.

Conduct all removal activities in compliance with the U.S. Clean Air and Clean Water Acts. Describe the proposed cleaning method in the work plan.

C. Fixture Removal

Remove all above ground product pipelines and fill pipes, gauge pipes, valve boxes, and other tank fixtures. Remove the drop tube, except when planned to be used in the vapor removal process. Cap all product and non-product lines, except the vent line. Existing vent lines shall remain connected until a tank is purged. Where vent lines do not exist, the Contractor shall provide alternate venting. Temporarily plug all other tank openings so that all vapors will exit through a vent or educator lines during the vapor removal process. Remove vent lines when the tank is removed from the ground.

D. Purging

If toxic and flammable vapors are found in the tanks and drums, the vapors shall be purged in accordance with API RP 1604 with the exceptions (1) do not fill with water and (2) if using dry ice, use a minimum of 3 pounds per 100 gallons of tank volume. The tank atmosphere shall be continually monitored for combustible vapors.

E. Tank Removal

After a tank has been freed of vapors but before it is removed from its original position, plug or cap all access holes. One plug is to have a 1/8-inch vent hole to prevent the tank from being subject to excessive differential pressure caused by temperature changes. Position tanks with this vent plug on top of the tank during subsequent transport and storage or until they are punctured preparatory to disposal. The cleaned tanks shall be crushed and disposed at an approved licensed facility.

F. Interior Cleaning

Clean tank interiors using a high pressure, low volume water spray or steam cleaner until all loose scale and residue are visibly removed. Collect all contaminated water resulting from cleaning operations. Dispose product, sludge, and rinse water at the approved facility.

Cleaning shall be done using specially designed tank cleaning equipment which allows tanks to be cleaned without requiring personnel to enter the tanks or, if less specialized equipment is used, tanks shall be partially dissected to overcome confined space entry hazards by removing the end walls. In either case, the cutting operation shall be accomplished using non-sparking or non-heat producing equipment. The USTs shall be placed in appropriately designed, diked areas or placed on grates with special containment areas to prevent spillage of rinse water on the ground surface.

3.5 DISPOSAL REQUIREMENTS

A. General

Materials requiring removal shall become the property of the Contractor. Dispose removed tanks, pumps, and associated piping at a properly licensed disposal facility. Waste disposal shall be in accordance with all local, State, and Federal solid and liquid waste laws and regulations, including those for hazardous waste, when applicable, as well as the Resource Conservation and Recovery Act (RCRA), and conditions specified herein. These services shall include all necessary personnel, labor, transportation, packaging, manifesting or completing waste profile sheets, equipment, and reports. Liquids removed from tanks shall be recycled to the greatest degree practicable. Maintain all disposal and recycle information for review by the Resident Project Representative.

B. Tank and Piping Disposal

1. Regulatory Prerequisites

Before disposal of used tank and piping, current Federal, State, and local regulations shall be checked to determine the special procedures or preparations that are required.

2. Gas Check

Before a tank is removed from the site, the tank atmosphere shall be checked with a combustible gas indicator to ensure that it does not exceed 20 percent of the lower explosive limit (LEL). If the atmosphere exceeds the limit, vapors must be evacuated until explosive limits are below 20 percent LEL. The Contractor shall verify that its gas testing equipment is properly calibrated and is reading correctly. Tests of oxygen concentrations shall be made to assist in verifying accuracy.

3. Puncturing and Cutting

After vapors have been evacuated from the tank and tank interiors and exteriors have been cleaned, render the tanks useless for future use as a storage tank by puncturing, cutting, or drilling numerous holes in all sections of the tank. The puncturing and cutting methods proposed for use shall be described in the work plan. Provisions for maintaining non-flammable and non-explosive atmosphere inside a tank and in the work area shall be included in the work plan.

4. Timeliness

Remove tanks from the site as promptly as possible after cleaning and evacuating vapors, preferably on the day of removal of a tank from the excavation. If a tank remains at the site overnight or longer, additional vapors may be released from any liquid absorbed in the tank walls or residues remaining in the tank. Until each tank is purposely punctured, the tank shall be positioned with the 1/8-inch vent hole located at the uppermost point on the tank.

5. Transporting

Secure tanks on a truck for transportation to the disposal or recycle facility. A clean tank may be cut apart on the site as necessary due to field conditions; when the entire tank cannot be placed directly on a truck due to site access limitations. Transport tanks in accordance with all applicable local, State, and Federal regulations.

C. Waste Material Disposal

Remove and dispose all waste materials from the project site at a properly licensed facility. Tank liquids, fuels, residues, and cleaning liquids shall be transported off-site to properly licensed disposal facilities. Consult 40 CFR 761 for regulations on removal and disposal of hazardous residues that may be present. Consult 29 CFR Parts 1910 and 1926 for safety precautions while handling chemicals, 49 CFR Part 171 through 178 and the other DOT regulations (HM181 standards) for shipment of hazardous materials. Only properly licensed industrial liquid waste transporters will transport liquids and residues to disposal facilities.

D. Records

Maintain disposal and recycle records for all waste determinations, including (1) appropriate results of analyses performed, (2) sample locations, (3) substances detected, (4) time of collection, and (5) other pertinent data as required by 40 CFR Part 280, Section 74 and 40 CFR Part 262 Subpart D. Record and make available information regarding method of transportation, method of treatment, method of disposal, quantities of waste, the names and addresses of each transporter, and the disposal or reclamation facility. Prepare and maintain copies and originals of the following documents:

1. Disposal manifests.
2. Waste analyses or waste profile sheets.
3. Certifications of final treatment/disposal signed by the responsible disposal facility official.

Following contract completion, the records shall become the property of the State of Michigan.

E. Hazardous/Special Waste Manifests

U.S. EPA waste generator's identification number for the site may be required due to the nature of the materials to be disposed. Work with the generator to obtain this or other generator identification numbers. For hazardous and non-hazardous contaminated liquid waste, utilize a State of Michigan approved manifest system in conformance with the requirements identified in 40 CFR Part 262, 40 CFR Part 263 and 40 CFR Part 761.

The manifests shall comply with all of the provisions of the transportation and disposal regulations. Prepare manifests for each load and obtain the appropriate identification numbers and signatures. The State-appointed representative will sign all hazardous and non-hazardous waste manifests on behalf of the waste generator.

Before waste transportation, all of the established pre-transport requirements shall be met. The wastes shall be transported by a certified waste transporter (i.e., the transporter must have an appropriate State waste identification number) in approved containers. All transporters must sign the appropriate portions of the manifest and must comply with all of the provisions established in the applicable regulations. Hazardous waste manifests must be signed by the Engineer.

Provide the Resident Project Representative with manifests, certificates, and other such evidence as may be required by Federal, State, and local regulations, to demonstrate that waste materials of all types were properly transported to, received at, and disposed at approved disposal facilities.

After delivery of the load, a copy of the manifest shall be provided to the Resident Project Representative.

F. Documentation of Treatment and Disposal

Hazardous wastes shall be taken to an approved treatment, storage, or disposal facility. The disposal facility will maintain U.S. EPA or appropriate State permits and waste treatment identification numbers and will comply with all of the provisions of the disposal regulations. Documentation of acceptance of special waste by a facility legally permitted to treat or dispose of those materials shall be furnished to the Resident Project Representative following the delivery of those materials to the facility.

3.6 SPILLS

A. Spill Responsibility

The Contractor is responsible for cleaning up all the leaks and spills from drums, small containers, or other items that occur because of the Contractor's negligence. Immediate containment actions shall be taken as necessary to minimize the effect to natural surroundings. Notify the Resident Project Representative and appropriate governmental authorities of the incident. Cleanup shall be in accordance with applicable Federal, State, and local laws and regulations and spill plan at no additional cost to the Authority or Engineer.

3.7 TANK DISPOSAL REPORT

A. Provide, as applicable, the following information within 14 days of completion of the project:

1. A cover letter signed by a responsible company official certifying that all services involved have been performed in accordance with the terms and conditions of this contract.
2. A narrative report briefly describing the tasks conducted, including:
    a. Conditions of the material before storage.
    b. Any visible evidence of leaks or stained soils.
    c. Results of vapor monitoring readings.
    d. Actions taken including quantities of materials treated or removed.
3. Copies of analytical information for all analyses performed for disposal.
4. Copies of all waste analyses or waste profile sheets.
5. Copies of all certifications of final disposal signed by the responsible disposal facility official.
6. Information describing sample collection, sample analysis, and waste transportation.
7. Information describing the sample method and rationale and chain-of-custody documentation for all testing.
8. Copies of all disposal manifests, bills-of-laiding, load tickets, and other transportation documentation.

3.8 BACKFILLING THE EXCAVATION

After UST removal, the Engineer will collect and analyze verification samples from the UST excavations. Backfilling will proceed upon orders from the Engineer once verification sample results have been received and reviewed. Contractor will backfill the UST excavation in accordance with Section 02315, Excavation and Fill.

--END OF SECTION -

SECTION 02200

EARTHWORK

PART 1 GENERAL

1.01 SUMMARY

A. Section includes excavation and backfill earthwork to complete the work of this contract.

B. The Contractor will provide all equipment, labor, materials and supplies required to perform the work in accordance with the Contract and Drawings.

C. The Contractor will provide all materials testing, laboratory analysis, construction quality assurance testing, and disposal fees for earthwork-related items. Copies of laboratory and field results shall be provided to the Authority and Engineer for project records.

1.02 SUBMITTALS

A. Submit laboratory results or certifications for materials specified on the plan sheets.

B. Waste characterization analysis and disposal manifests for contaminated excavation spoils.

1.03 MEASUREMENT AND PAYMENT

A. The work of this section will be considered incidental to other items of work.

B. Refer to Section 01025 – Measurement and Payment

PART 2 PRODUCTS

2.01 BACKFILL - GENERAL

A. Free-draining, granular material meeting the requirements of MDOT Class II Sand.

PART 3 EXECUTION

3.01 PREPARATION

A. The Contractor shall verify complete removal of topsoil, vegetation, debris, etc.

B. If necessary, the Contractor shall verify completion of construction staking.

C. The Contractor shall provide storm water controls sufficient to keep the work area free of standing water and prevent erosion at all times.

D. The Contractor shall provide dust control on a regular basis throughout the work of this contract.

3.02 EXCAVATION

A. Soils and groundwater from the property are assumed to be contaminated and as such, any soils that are removed from the site must be appropriately handled and disposed in accordance with local, state and federal regulations. To prevent run-off of contamination, excavated areas may not be left open and exposed to storm water. If available refer to environmental reports or Due Care Plan for contaminated soil and groundwater locations.

B. Excess excavated material may be utilized beneath the asphalt paving, in any proposed berm at the property, or disposed at an approved Type II landfill. Unless otherwise provided the Contractor will be responsible for waste characterization and disposal fees.

1. With engineer approval, soil may be temporarily stockpiled to allow characterization and evaluation of possible alternative disposal options.

C. The Contractor shall excavate to design grade where needed. Over-excavation below design grade will not be compensated. Final excavation depth and volume will be determined by Engineer.

D. The Contractor shall maintain appropriate side-slopes in all excavations. Trench excavations shall be supported with shoring or trench boxes.

E. Excavated materials shall be disposed at an approved licensed landfill. If stockpiling for re-use is desired, the Contractor shall request a designated location determined by Authority or Engineer.

F. CONTRACTOR shall identify and remove areas of unsuitable subgrade material, demonstrated by rutting or pumping during proof-roll or under vehicular traffic.

a. Proof-roll may be performed using heavy equipment such as a fully loaded front-end loader or tandem-axle dump truck
b. Replacement backfill shall be placed in accordance with Section 3.03 of this Specification.

G. Provide a smooth finished surface, with a relatively uniform surface at design elevation.

H. Notify Authority or Engineer that subgrade elevations are complete for verification. If necessary, Authority or Engineer will provide one (1) certification survey to verify grades. Locations which do not meet grading tolerances shall be re-graded and re-certified at the Contractor's expense.

3.03 BACKFILL - GENERAL

A. Verify grades and acceptance of subgrade after excavation and proof rolling.

B. Backfill shall be placed in lifts not exceeding 12 inches in loose thickness.

C. The Contractor shall apply compactive effort, using vibratory compactors, plate compactors, etc. to achieve the required density. Compaction equipment shall be sufficient in size to achieve compaction while minimizing effort.

D. Compact backfill and/or embankment to at least 95% of the maximum dry density obtained by the modified Proctor test. Maintain moisture during placement to assist in achieving the optimum moisture-density relationship.

a. The Contractor shall provide Construction Quality Assurance field testing to assure compactive effort is successful. Engineer must be notified at least 48 hours in advance to witness field testing. Copies of field test results shall be provided to Engineer for approval, and for inclusion in project record.

E. Provide a smooth finished surface at design elevation.

END OF SECTION 02200

SECTION 02221

BACKFILLING AND COMPACTION

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 1556	(1990) Density and Unit Weight of Soil in Place by the Sand-Cone Method
ASTM D 1557	(1991) Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/cu. ft. (2,700 kN-m/cu.m.))

1.2 DEFINITIONS

A. Degree of Compaction

Degree of compaction required is expressed as a percentage of the maximum density obtained by the test procedure presented in ASTM D 1557 abbreviated hereinafter as percent laboratory maximum density.

PART 2 PRODUCTS

2.1 MATERIALS

A. Satisfactory Materials

Satisfactory materials include materials classified as of MDOT Class II Sand and shall be free of trash, debris, roots or other organic matter, or stones.

All material must originate from a site free from environmental contamination. Written certification must be supplied for all backfill materials that it is from a “virgin source” and/or “the material is free from contamination.”

B. Unsatisfactory Materials

Unsatisfactory materials include materials classified in ASTM D 2487 as Pt, OH, OL, contaminated materials, and any other materials not defined as satisfactory.

PART 3 EXECUTION

3.1 BACKFILLING

A. Engineering Fill

Satisfactory materials shall be used in bringing backfill to the lines and grades indicated for filling pits, trenches, and other sub grade voids. Satisfactory materials shall be placed in horizontal layers not exceeding 12 inches in loose thickness. After placing, each layer shall be treated and compacted as specified. Backfilling shall not begin until all sub grade voids are cleaned of trash and debris. Backfill shall be brought to rough grade. Backfill shall not be placed in wet or frozen areas. Each layer of backfill shall be compacted to not less than the 95 percent of the maximum dry density.

Engineering backfill shall be brought up to adjacent rough grade minus the depth of any required surface restoration.

B. Top Fill

To be completed under separate contract.

3.2 TESTING

Testing shall be the responsibility of the Contractor and shall be performed at no additional cost to the Authority. Testing shall be performed by an approved commercial testing laboratory or may be performed by the Contractor subject to approval. Compaction testing for fill material shall be in accordance with ASTM D 1557-Modified Proctor.

3.3 PROTECTION

Settlement or washing that occurs in backfilled areas prior to acceptance of the work shall be repaired and grades re-established to the required elevation slopes.

END OF SECTION

SECTION 02920

EROSION AND SEDIMENTATION CONTROLS

PART 1 GENERAL

1.01 Purpose

A. Install and maintain erosion and sedimentation controls to minimize soil erosion and control sedimentation from affecting water resources of the State and of adjacent properties.

B. Control measures shall comply with and meet the requirements of the Soil Erosion and Sedimentation Control (SESC) plan and SESC permit.

1.02 Related Documents

A. Section 01010 – Scope of Work

1.03 Measurement and Payment

A. This work will be paid as a Lump Sum cost as part of the Mobilization and Demobilization based on Authority or Engineer's verification that the work is complete.

B. The Contractor is responsible for installation and maintenance of soil erosion and sedimentation controls throughout the duration of the work. If deficiencies are noted, the Contractor shall install additional measures to ensure the protection of the work, ground and surface waters, and adjacent properties, at no additional cost.

C. Replacement or installation of additional measures shall be carried out as needed, with no additional cost to the Authority or Engineer.

PART 2 PRODUCTS

2.01 Soil Erosion and Sedimentation Control (SESC) Products

A. The products listed below are suggested for this site. The list is not comprehensive and the Contractor shall select the products best suited to comply with the SESC permit and provide protection for this site.

B. Silt Fence: woven geotextile attached to stakes to filter sheet flow and prevent sediment transport off site.

C. Diversion Berm: constructed of earthen material to redirect storm water run off

D. Inlet Protection: filter bags, stone and fabric filters, or other approved method to prevent sedimentation from reaching catch basins or manholes

E. Temporary Seeding: application of seed, such as on stockpiles, to provide a vegetative cover which slows runoff and minimizes sedimentation

F. Rip rap: larger stone to protect channels and ditches, used in combination with a filter fabric underlayment

PART 3 EXECUTION

3.01 General

A. Erosion controls and sedimentation controls shall be installed prior to commencement of any earthwork at the site. At a minimum, the Contractor shall install the measures shown on the SESC plan. Additional measures may be required as the work progresses, at no additional cost to the Authority or Engineer.

B. Final grades shall be achieved as quickly as possible. Minimize the disturbed area by utilizing work staging to complete one area at a time.

C. Contractor is responsible for regular maintenance and repair of the installed erosion control measures. Replacement materials shall be installed at no additional cost to the Owner.

1. Inspections by a Certified Construction Storm Water Operator will be provided by the Contractor or Engineer. The Contractor shall complete repairs and comply with recommendations noted in the weekly reports.

D. Unless otherwise approved by Engineer, the installation of permanent soil erosion controls (e.g. seed and mulch) shall be completed within 5 days of completion of final grading.

E. Temporary controls shall be removed only when permanent replacement control methods are in place.

3.02 SESC Installation and Maintenance

A. All SESC measures shall be installed in accordance with MDOT Standard Specifications and with current Best Management Practices for the State of Michigan.

B. Silt Fence: lower 6 inches of silt fence should be trenched in, with compacted soil placed above the anchored fabric. Stakes should be facing downstream with the anchor trench on the upstream side. Fabric should be taut between stakes. Maintenance: Remove sediment build-up when it reaches half to two-thirds of the height of the fabric. Replace torn or damaged sections of fabric as needed.

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C. Diversion Berm: construct berm of embankment material, placed in compacted lifts to the desired height. Berm surface should be seeded or protected with a mulch blanket or fabric to prevent additional sedimentation and erosion. Maintenance: Keep flow line open, remove debris and sediment build-up. Maintain berm by repairing eroded areas between rain events.

D. Inlet Protection: completely surround inlet with filter materials (fabric wrap, stone filter with fabric, silt fence surround), or insert filter bags. Make sure fabric has sufficient run-out to anchor the fabric and completely filter the inlet opening. Maintenance: Keep filter material clean. Replace sediment-laden stone filter, remove and clean filter fabric before replacing.

E. Temporary Seeding: apply seed to temporary area. Water thoroughly to promote germination. Maintain area with regular application of water until seed is growing vigorously and can support itself. Maintenance: inspect the seeded area for eroded portions. Correct eroded areas by re-grading, re-seeding and monitoring growth.

F. Riprap: place riprap on top of a non-woven geotextile filter fabric, taking care not to damage the fabric. Anchor the fabric at the top of the slope, in an anchor trench with compacted soil backfill. Use stone placement methods that maximize stone particle interlock, using smaller stones to fill gaps between larger stones. Maintenance: inspect the riprap area regularly for signs of washout, beneath the fabric.

- END OF SECTION -

SECTION 13281

ASBESTOS ABATEMENT

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Removal and disposal requirements for asbestos containing materials (ACM). Information regarding ACM as identified in the buildings at the site is discussed in detail in Bidding Documents and Hazardous Material Survey. It is recommended that the contractor review and consider the recommendations reported in this survey when performing asbestos abatement and general building demolition activities.

1.02 RELATED SECTIONS

A. Section 01100 - Safety, Health, and Emergency Response

B. Section 01120 - Hazardous Material Project Procedures

C. Section 02074 - Hazardous Contaminated Material

1.03 REFERENCE STANDARDS

The publications listed below form a part of this Section to the extent referenced. The publications are referenced in the text by basic designation only.

A. American Society for Testing and Materials (ASTM)
   1. ASTM E 736 (1986) Cohesion/Adhesion of Sprayed Fire-Resistive Materials Applied to Structural Members.
   2. ASTM 1368 (1990) Visual Inspection of Asbestos Abatement Projects.

B. Code of Federal Regulations (CFR)
   1. CFR 29 Part 1926/1910 Construction Industry Occupational Safety and Health Standards.
   2. CFR 40 Part 61 National Emissions Standards for Hazardous Air Pollutants.
   3. CFR 40 Part 260 General Regulations for Hazardous Waste Management.
   4. CFR 40 Part 263 Standards Applicable to Transporters of Hazardous Waste.
   5. CFR 40 Part 763 Asbestos.
   6. CFR 49 CFR 171 Department of Transportation Regulations to Stipulate Requirements for Containers and Procedure for Shipment of Hazardous Waste.

C. National Fire Protection Association (NFPA)
   1. NFPA 10 (1988) Portable Fire Extinguishers.
   2. NFPA 70 B (1990) Recommended Practice for Electrical Equipment Maintenance.
   3. NFPA 90A (1989) Installation of Air Conditioning and Ventilating Systems.
   4. NFPA 101 (1988) Safety to Life from Fire in Buildings and Structures.
   5. NFPA 90A (1989) Installation of Air Conditioning and Ventilating Systems.

D. National Institute of Occupational Safety and Health (NIOSH)
   1. NIOSH –01 Manual of analytical Methods

E. State of Michigan
   1. P.A. Act 451, Michigan Natural Resources and Environmental Protection Act
   2. MIOSHA Act 154 General Industry and Construction (as amended) Safety Standards.

F. United States Environmental Protection Agency (U.S. EPA)
   1. U.S. EPA SW-846, Test Methods for Evaluating Solid Waste.

1.04 MEASUREMENT

A. Removal and Disposal of ACM

1. The removal and disposal of ACM will be a lump sum pay item, consequently no measurements for payment will be conducted.
2. Estimated quantities of ACM are included in Bidding Documents and Hazardous Material Survey.

1.05 PAYMENT

A. Removal and Disposal of ACM

1. All acceptably completed work as required under this Section for the removal and disposal of ACM found on site will be paid as the lump sum cost as bid.

1.06 DEFINITIONS

A. Friable Asbestos Containing Material

As defined in 40 CFR Part 61, Subpart M, any material containing more than 1 percent asbestos as determined using the method specified in 40 CFR Part 763, Appendix A, Subpart F, Section 1, Polarized Light Microscopy, that when dry, can be crumbled, pulverized, or reduced to powder by hand pressure.

B. Nonfriable Asbestos Containing Material

As defined in 40 CFR Part 61, Subpart M, any material containing more than 1 percent asbestos as determined using the method specified in 40 CFR Part 763, Appendix A, Subpart F, Section 1, Polarized Light Microscopy, that, when dry, cannot be crumbled, pulverized or reduced to powder by hand pressure.

C. Category I Nonfriable Asbestos Containing Material

As defined in 40 CFR Part 61, Subpart M, asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using the method specified in 40 CFR Part 763, Appendix A, Subpart F, Section 1, Polarized Light Microscopy, that when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

D. Category II Nonfriable Asbestos Containing Material

As defined in 40 CFR Part 61, Subpart M, any material, except Category I nonfriable ACM, containing more than 1 percent asbestos as determined using the methods specified in Appendix A, Subpart F, 40 CFR Part 763, Section 1, Polarized Light Microscopy, that when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

E. Asbestos Regulated Work Area

An area contained and controlled where asbestos containing materials (ACM) operations are performed and isolated by physical boundaries to prevent the spread of ACM and control access to authorized persons. Containment may consist of full containment area, single or double bulkhead containment area, mini-containment area, modified containment, glove bag, or other techniques. An outdoor regulated work area is not isolated within a containment enclosure, but is otherwise secured by means of physical barriers, boundary warning tape, and signage, etc., to control access by unauthorized persons.

F. Time-Weighted Average

The Time Weighted Average (TWA) is an average of airborne concentration of fibers (longer than 5 micrometers) per cubic centimeter of air based on an 8-hour exposure duration, which represents the employee's 8-hour workday as defined in Appendix A of 29 CFR Part 1926, Section 1926.58.

G. Amended Water

Water containing a wetting agent or surfactant with a surface tension of at least 29 dynes per square centimeter when tested in accordance with ASTM D 1331.

H. Adequately Wet

As defined in 40 CFR Part 61, Subpart M, sufficiently mix or penetrate with liquid to prevent the release of particulates from the source material. Continue wetting asbestos-containing material (ACM) if visible emissions are encountered during abatement activities. When uncertainties arise, continue wetting material until uncertainties diminish.

I. Competent Person

As defined in 29 CFR Part 1926, should be experienced in administering and supervising asbestos abatement projects. A competent person should be familiar with safe and reasonable work practices, abatement methods, protective measures for personnel, inspection of asbestos abatement work areas, evaluating the adequacy of containment barriers, placement and operation of local exhaust systems, waste containment and disposal procedures, decontamination units, and site health and safety health requirements. The designated "competent person" will be responsible for compliance with applicable local Sate, and Federal requirements and for enforcing the site-specific Health and Safety Plan (HASP).

1.07 SUBMITTALS

A. Work Plan

Before proceeding with any removal and disposal work, submit a work plan that includes the procedures proposed for the accomplishment of all specified activities. The procedures shall provide for safe conduct of the work, careful removal and disposition of asbestos-containing materials, and property protection. The procedures shall provide a detailed description of the methods and equipment to be used for each operation, and the sequence of operations. The work plan shall be based on work experience, and the guidance provided in this specification.

B. Health and Safety Plan

Submit a site-specific Health and Safety Plan (HASP) before beginning removal or disposal activities. Include in the HASP required personal protective equipment, respiratory protection, asbestos regulated work area controls, and hazard communication program. Refer to Section 01110 for other HASP requirements.

C. Asbestos Abatement Plan

Submit a site-specific Asbestos Abatement Plan that includes methods utilized (1) to determine the necessary extent of asbestos removal work within structures and the debris piles and (2) for removal and disposal of asbestos and surfactant impacted water. Include contact name and telephone number for the licensed disposal facility and waste hauler used for removal, treatment, and disposal of the wastewater unsuitable to discharge into the sanitary sewer. Provide a copy of the approval notice from the disposal facility agreeing to accept the impounded water for disposal. Include a configuration map that displays the asbestos regulated work area, containment areas, and entrances and exits.

D. Qualifications

Submit adequate information to conclude the qualifications of the Contractor, on-site supervisors, workers, all subcontractors, and the independent testing laboratory performing asbestos abatement activities are properly trained in safety procedures associated with handling asbestos-containing materials. Specify the staff organization to include subcontractors used for this project. Include qualifications and certifications of the designated "competent person."

E. Materials

Submit a list of data for all materials and equipment used during abatement activities. Include brand name, model, capacity, performance characteristics, and other pertinent information. Submit any test results and certificates from the manufacturer for equipment and materials substantiating compliance with performance requirements of these specifications. Provide Material Safety Data Sheets (MSDS) for all chemicals to be used on site.

F. Air Sampling Results

Conduct fiber counting for air quality during each sampling event. Provide results within 24 hours of completion of each sampling event. Notify the Owner's Representative immediately if any airborne levels of asbestos fibers are encountered above levels established in the HASP. Provide a table including sampling results within 5 working days of the date of collection. Provide a signature of the authorized representative of testing laboratory.

G. Manifests

Submit waste documentation for all shipments removed from the property. Waste disposal manifests will be signed by the Authority or appointed representative.

1.08 REGULATORY REQUIREMENTS

A. Permits

Obtain all necessary permits and licenses for asbestos abatement activities. Notify the Michigan Department of Public Health, local agencies, and the On-Site Representative in writing at least 10 calendar days before beginning abatement activities. Conduct all abatement activities in accordance with 40 CFR Part 61, Subpart M, state and local requirements to include the mandatory "Notification of Demolition and Renovation Record" form and other required notification documents.

B. Health and Safety Compliance

Comply with all applicable laws, ordinances, rules, regulations, and specifications described in this Section and Section 01110, Safety, Health and Emergency Response. While conducting all handling, storing, transporting, and disposing activities for asbestos waste materials, comply with the applicable requirements of 29 CFR Part 1910, 29 CFR Part 1926, 40 CFR Part 61, Subpart A, and 40 CFR Part 61, Subpart M, NFPA 10, NFPA 70, NFPA 90A, NFPA 101. In case of a discrepancy between the requirements of this specification, applicable laws, rules, criteria, ordinances, regulations, and referenced documents vary, the most stringent requirement as determined by the Engineer or Authority shall apply.

1. Air Monitoring

a. Conduct personal air sampling as defined by the previously noted regulations. Monitoring for of airborne asbestos fibers and lead dusts. Adhere to all permit and regulatory requirements for air quality.

2. Respiratory Protection Program

a. Establish and implement a respiratory protection program in accordance with 29 CFR 1926, Section 1926.1101,29 CFR Part 1910, Section 1910.134. Include medical monitoring, employee training, procedures for respirator use, respirator fit-testing, routine inspection, and storage. Select and use respirators in accordance with manufacturers recommendations, Mine Safety and Health Administration, and the National Institute for Occupational Safety and Health requirements for use in environments containing airborne asbestos fibers.

3. Training

a. All employees working directly with asbestos-containing material and wastes must have successfully completed a course of asbestos training as specified by United States Environmental Protection Agency (EPA) requirements at 40 CFR Part 763, Subpart E, Appendix C, within 1 year prior to conducting asbestos abatement activities. Each worker must successfully complete the “Worker” course, and on-site supervisors and technical support personnel must successfully complete the “Contractor/Supervisor” course.

4. Medical Monitoring

a. Conduct medical monitoring requirements as described in 29 CFR Part 1926, Section 1926.1101 and the requirements of the Contractor’s Health and Safety Plan found.

5. Personal Protective Equipment

a. Provide personnel working in asbestos environments with whole body protection as specified in Section 01110, Health, Safety, and Emergency Response. Single-use coveralls shall be disposed as asbestos-contaminated waste upon exiting from the asbestos regulated work area.

PART 2 PRODUCTS

2.01 MATERIALS

A Wetting Agent

1. Amended Water

a. Comply with ASTM D 1331.

2. Removal Encapsulant

a. Provide a removal or penetrating encapsulant when conducting asbestos abatement activities that require a longer removal time or are subject to rapid evaporation of amended water. The removal encapsulant shall be capable of wetting the ACM and retarding fiber release during disturbance of the ACM equal to or greater than provided by amended water.

B. Strippable Coating

Provide additional incidental items necessary to complete specified activities.

C Prefabricated Decontamination Unit(s)

Provide additional incidental items necessary to complete specified activities.

D Chemical encapsulant
Provide additional incidental items necessary to complete specified activities.

E. Chemical encasement materials
Provide additional incidental items necessary to complete specified activities.

F. Material Safety Data Sheets (for all chemicals proposed)
Provide additional incidental items necessary to complete specified activities.

G. Sheet Plastic
Provide sheet plastic as specified herein and in the largest size necessary to minimize seams. Comply with ASTM D 4397 and NFPA 701.

H. Other items
Provide additional incidental items necessary to complete specified activities.

2.02 EQUIPMENT

A. High efficiency filtered local exhaust equipment

B. Vacuum equipment

C. Pressure differential monitor

D. Air monitoring equipment
Provide appropriate air monitoring equipment to evaluate concentrations of airborne asbestos fibers. The Engineer will conduct Quality Assurance/Quality Control air monitoring along the property boundaries or within abatement areas as deemed necessary by the Engineer.

E. Respirators
Provide respirators as specified in Part 1.08.B.2 of this Section

F. Glove Bag
Provide glove bags that comply with 29 CFR Part 1926.

G. Duct Tape
Provide industrial grade duct tape in 2 inch and 3 inch widths, suitable for bonding sheet plastic and disposal containers specified herein.

H. Leak-Tight Containers
Provide leak-tight disposal containers and bags for asbestos-containing materials and generated wastes as specified herein. All disposal containers shall be either pre-labeled or affixed with OSHA warning label, as specified in 29 CFR Part 1926.

2.03 SOURCE QUALITY CONTROL

Encapsulants shall conform to USEPA requirements, shall contain no toxic or hazardous substances or solvent, and shall meet the following requirements:

A. Requirements and Corresponding Test Standards for All Encapsulants

Requirement	Test Standard
Flame Spread – 25, Smoke Emission – 50	ASTM E 84
Combustion Toxicity	University of Pittsburg Protocol

Zero Mortality	University of Pittsburg Protocol
Life Expectancy – 20 years	ASTM C 732 (Accelerated Aging Test)
Permeability – Minimum 0.4 perms	ASTM E 96

B. Additional Requirements and Corresponding Test Standards for Bridging Encapsulant

Requirement	Test Standard
Cohesion/Adhesion Test – 50 pounds of force/foot	ASTM E 736
FIRE RESISTANT	ASTM E 119
Impact Resistance – Minimum 43 in/lb	ASTM D 2794 (Gardner Impact Test)
Flexibility – no rupture or cracking	ASTM D 522 (Mandrel Bend Test)

C. Additional Requirements and Corresponding Test Standards for Penetrating Encapsulant

Requirement	Test Standard
Cohesion/Adhesion Test – 50 pounds of force/foot	ASTM E 736
FIRE RESISTANT	ASTM E 119
Impact Resistance – Minimum 43 in/lb	ASTM D 2794 (Gardner Impact Test)
Flexibility – no rupture or cracking	ASTM D 522 (Mandrel Bend Test)

D. Additional Requirements and Corresponding Test Standards for Bridging Encapsulant

Requirement	Test Standard
Cohesion/Adhesion Test – 50 pounds of force/foot	ASTM E 736
Fire Resistant	ASTM E 119
Impact Resistance – Minimum 43 in/lb	ASTM D 2794 (Gardner Impact Test)
Flexibility – no rupture or cracking	ASTM D 522 (Mandrel Bend Test)

E. Additional Requirement and Corresponding Test Standards for Lock-Down Encapsulant

Requirement	Test Standard
FIRE RESISTANT	ASTM E 119
Bond Strength	ASTM E 736

PART 3 EXECUTION

3.01 GENERAL

Remove and dispose asbestos-containing material at an approved recycle facility. Obtain all required permits and approval documents. Provide approved containers, vehicles, equipment, labor, signs, placards, labels, manifests, and other documents necessary for accomplishing the work including materials necessary for spill cleanup from removal operations. Coordinate any additional sampling that may be necessary.

A. Safety Guidelines

Personnel working inside and in the general vicinity of the cleanup area shall be trained and made thoroughly familiar with the safety precautions, procedures, and equipment required for controlling the potential hazards associated with this work. Personnel shall use proper protection and safety equipment during work in and around the asbestos regulated work area.

B. Controls

Areas where asbestos abatement activities are conducted should be adequately secured as specified herein.

Perform work in accordance with the requirements and specifications and take direction only from the Authority or Appointed Representative for this contract. Any other party that proposes to give direction to the contractor shall be immediately referred to the Authority or Appointed Representative.

C. Routine Cleaning

1. Package all loose asbestos-containing materials and debris and remove from the work area to the load-out area.
2. Vacuum work areas with HEPA vacuum or other high volume HEPA-filtered transfer equipment.
3. Inspect and maintain polyethylene and PVC in work and high traffic areas.
4. If air sample results exceed prescribed level, wipe clean containment and decontamination areas.

3.02 ABATEMENT PROCEDURES

A. Methods

Determine and implement the most efficient asbestos abatement method in conformance with this specification. Employ proper handling procedures in accordance with 29 CFR Part 1926 and 40 CFR Part 61, Subpart M, and the requirements specified herein. Abatement techniques and items identified shall be detailed in the Asbestos Abatement Plan including but not limited to details of construction materials, equipment, and handling procedures, and necessary safety precautions.

B. Revised Quantities

Before the contaminated debris has been removed, verify the previously submitted quantity estimates of other asbestos-containing materials and notify the Authority or Engineer of any changes in the quantities.

C. Air Monitoring

Perform sampling and analysis for airborne concentration of asbestos fibers in accordance with 29 CFR Part 1926 Section 1926.1101, the air monitoring plan, and as specified herein. Collect personal air monitoring samples to represent the work activities for each shift, or a minimum of two, whichever is greater. Results of the personal samples shall be posted at the job site and made available to the Authority or Appointed Representative. The Contractor shall maintain a fiber concentration inside enclosed containment regulated work area equal to or less than 0.1 f/cc expressed as an 8 hour, TWA during asbestos abatement. If fiber concentration rises above 0.1 f/cc, the Authority or Appointed Representative may elect to examine work procedures to determine the cause and work with the foreman/competent person to implement corrective actions.

Workers shall not be exposed to an airborne fiber concentration in excess of 1.0 f/cc, as average over a sampling period of 30 minutes. If either an environmental concentration of 1.0 f/cc expressed as an 8-hour TWA or a personal excursion concentration of -1.0 f/cc expressed as a 30-minute sample occur inside the enclosed work area, stop work immediately, notify the Authority or Appointed Representative, and implement additional engineering controls and work practice controls to reduce airborne fiber levels below prescribed limits in the work area. Do not restart until authorized by the Authority or Appointed Representative.

Conduct personal sampling required by 29 CFR Part 1926 Section 1926.1101, in accordance with the NIOSH Method 7400, Phase Contract Microscopy (PCM).

Per regulation, environmental and perimeter air monitoring outside of regulated containment areas shall not exceed clearance levels contained in 40 CFR part 763, subpart E, which is 0.01 f/cc or no more than background levels representing the same area before the asbestos work began.

For final clearance samples, Contractor will conduct sampling at a sufficient velocity and time to collect a sample volume necessary to establish the limit of detection of the method used at 0.01 f/cc or background levels, whichever is higher. Background, environmental, quality assurance and

final air clearance samples will be collected and analyzed according to NIOSH Method 7400 methodology.

1. Routine Air Sampling

   Provide personal sampling as indicated in 29 CFR Part 1926 Section 1926.1101, state and local requirements, and in accordance with the air monitoring plan. Conduct air sampling at least once during every shift, close to the work in the containment area, outside the clean room entrance to the containment area, inside the clean room, outside the load-out unit exit, and at the exhaust discharge point of the local exhaust system.

2. Sampling After Final Clean-Up (Clearance Sampling)

   Prior to conducting final air clearance monitoring, conduct a final visual inspection with the Engineer. Final clearance air monitoring shall not begin until acceptance of this final cleaning by the Engineer. Comply with the sampling and analytical methods provided in NIOSH-01 Method 7400 (PCM) with optional confirmation of results by NIOSH-01 Method 7402 (TEM).

3. Failure to Meet Air Quality Requirements

   If clearance sampling results fail to meet the final clean-up requirements, reclean, resample, and reanalyze until final clean-up requirements are met. Costs associated with additional samples, cleaning, and inspections will be paid by the Contractor.

D. Additional Bulk Asbestos Sampling

   Bulk asbestos sampling and polarized light microscopy analysis (PLM) has been conducted for various materials located throughout the site. During debris removal, previously unidentified potential asbestos-containing material may be encountered, requiring bulk sampling and analysis. Additional bulk sample analyses as required under this Section shall be paid by the Contractor. Perform bulk sampling as required or as specified by the Authority or Engineer. Employ a laboratory for testing and analysis, which routinely provides analytical services acceptable to Michigan Department of Environmental Quality and EPA.

E. Asbestos Abatement

   Collect and place in sealed, leak-tight containers all asbestos waste, scrap, debris, bags, containers, equipment, and asbestos contaminated personal protective equipment. Use 6-mil, double wrapped polyethylene sheets, sealed fiberboard boxes, or other approved containers. Waste within the containers must be wetted in case the container is damaged. Affix a warning label and a Department of Transportation (DOT) label on each bag. Dispose waste material at an approved, licensed asbestos landfill. For temporary storage, keep sealed impermeable containers in asbestos waste load-out unit or in a storage/transportation conveyance (dumpsters or roll-off boxes) in a manner as accepted by and in an area as assigned by the Authority or Appointed Representative. Procedure for hauling and disposal asbestos-containing material shall comply with 40 CFR Part 61, Subpart M, state, regional, and local standards and specifications.

F. Waste Records

   Provide final completed copies of the Waste Shipment Record for shipments of all waste material as specified in 40 CFR Part 61, Subpart M, and other required state waste manifest shipment records within 3 days of delivery to the landfill.

G. Final Cleaning

   Abate asbestos by collecting, packing, and storing all gross contamination in accordance with all references and specifications. Once cleaning has been completed, conduct a visual pre-inspection of the cleaned area. A final air monitoring event will be performed

to verify adequacy of clean-up. Recleaning and follow-up inspections shall be at the Contractor's expense. Upon completion of the final cleaning, conduct a final visual inspection of the cleaned area with the Authority or Engineer. Document the results. If the Authority Engineer determines that the abatement area does not meet final cleaning requirements, reclean as necessary and conduct additional follow-up inspection with the Authority or Engineer.

H. Lock Down Encapsulant

In areas where friable ACM was removed, after clean-up of gross contamination, and final visual inspection, but before removing plastic barriers, apply a post removal (lockdown) encapsulant to floor, walls, ceilings, and other surfaces in the removal area. When work was limited to glove bags only apply encapsulate to item within glove bag.

END OF SECTION

SECTION 13282

PCB-CONTAINING EQUIPMENT REMOVAL

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Removal and disposal requirements for PCB ballasts, suspect PCB ballasts, and oil filled ballasts. PCB and suspect PCB containing light ballasts and other electrical equipment may be present at the subject property.

1.02 RELATED SECTIONS

A. Section 01110 - Health, Safety, and Emergency Response

B. Section 01570 – Temporary Controls

1.03 REFERENCE STANDARDS

The publications listed below form a part of this Section to the extent referenced. The publications are referenced in the text by basic designation only.

A. American Petroleum Institute (API)

1. APR Rp 2003, Protection Against Ignitions Arising out of Static, Lightning and Stray Currents.
2. API Publ 2015, Safe Entry and Cleaning Petroleum Storage Tanks.
3. API Publ 2217, Guidelines for Confined space Work in the Petroleum Industry.
4. API Publ 2219, Safe Operation of Vacuum Trucks in Petroleum Service.

B. Code of Federal Regulations (CFR)

1. CFR 29 CFR 1910.146 OSHA - Permit Required Confined Spaces.
2. CFR 29 CFR 1926/1910 Construction Industry Occupational Safety and Health Standards.
3. CFR 40 CFR 260 General Regulations for Hazardous Waste Management.
4. CFR 40 CFR Part 261 Identification and Listing of Hazardous Waste.
5. CFR 40 CFR Part 262 Standards Applicable to Generators of Hazardous Waste.
6. CFR 40 CFR Part 263 Standards Applicable to Transporters of Hazardous Waste.
7. CFR 40 CFR Part 264 Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities.
8. CFR 40 CFR Part 265 Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities.
9. CFR 49 CFR 171 Department of Transportation Regulations to Stipulate Requirements for Containers and Procedure for Shipment of Hazardous Waste.

10. CFR 40 CFR Part 761 Polychlorinated Biphenyls (PCB) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions.

C. National Fire Protection Association (NFPA)

1. NFPA 30 (1990) Flammable and Combustible Liquids Code.

2. NFPA 70 B (1990) Recommended Practice for Electrical Equipment Maintenance.

3. NFPA 325M (1991) Fire Hazard Properties of Flammable Liquids, Gases, and Volatile Solids.

4. NFPA 327 (1987) Standard Procedures for Cleaning or Safeguarding Small Tanks and Containers.

D. National Institute of Occupational Safety and Health (NIOSH)

1. NIOSH 80-106 Criteria for a Recommended Standard for Working in Confined Spaces.

E. State of Michigan

1. P.A. Act 451, Michigan Natural Resources and Environmental Protection Act

2. MIOSHA Act 154 General Industry and Construction (as amended) Safety Standards.

F. United States Environmental Protection Agency (U.S. EPA)

1. U.S. EPA SW-846, Test Methods for Evaluating Solid Waste.

1.04 MEASUREMENT

A. Removal and Disposal of PCB-containing Light Ballasts and Equipment

The removal and disposal of containerized PCB-containing light ballasts will be a lump sum pay item, consequently no measurements for payment will be conducted.

Estimated quantities of PCB-containing Light Ballasts and Equipment are included in Appendix A. Note that the majority of light ballasts and transformers present within the subject buildings are labeled “Non-PCB” containing.

1.05 PAYMENT

A. Removal and Disposal of PCB-containing Light Ballasts

All acceptably completed work as required under this Section for the removal and disposal of containerized PCB-containing light ballasts found on site will be paid as the lump sum cost as bid.

1.06 SUBMITTALS

A. Work Plan

Before proceeding with any removal and disposal work, submit a work plan that includes the procedures proposed for the accomplishment of the removal and disposal work. The procedures shall provide for safe conduct of the work; careful removal and disposition of solid materials and liquid wastes; and property protection. The procedures shall provide a detailed description of the methods and equipment to be used for each operation, and the sequence of operations. The work plan shall be based on work experience, and the guidance provided in this specification.

B. Health and Safety Plan

Before proceeding with any removal and disposal work, submit a site-specific health and safety plan (HASP) that includes the necessary precautions and safety procedures proposed for the accomplishment of the removal and disposal work. Include detailed information regarding temporary controls, including lock-out/tag-out procedures, and hazardous material handling. The HASP shall include procedures specified in this Section and in Section 01110, Health, Safety, and Emergency Response.

C. Decommissioning Report

Provide as applicable, in a three ring binder, the following information within 14 days of completion of the project:

1. A cover letter signed by a responsible company official certifying that all services involved have been performed in accordance with the terms and conditions of this contract.
2. A narrative report briefly describing the tasks conducted, including:
    a. Conditions of the material before storage.
    b. Any visible evidence of leaks or stained soils.
    c. Results of vapor monitoring readings.
    d. Actions taken including quantities of materials treated or removed.
3. Copies of all analyses performed for disposal.
4. Copies of all waste analyses or waste profile sheets.
5. Copies of all certifications of final disposal signed by the responsible disposal facility official.
6. Information on who sampled, analyzed, transported, and accepted all wastes encountered.
7. Information describing the sample method, rationale, results, and chain-of-custody documentation for all testing.
8. Copies of all disposal manifests, bills-of-lading, load tickets and other transportation documentation.

D. Notice of Acceptance

After removing and disposing drums and small containers from the project site, submit the name and location of the properly licensed disposal facility and a copy of the written agreement from the disposal facility agreeing to accept contaminated materials for disposal. This documentation shall include manifests with quantities. The documentation is due 10 days after removal from the site.

E. Disposal Documents

Provide copies of all licenses, certificates, permits, agreements, manifests, chain of custody records, weigh tickets, meter recordings, delivery tickets, and receipts required or issued for material disposal. Provide a list of the equipment used, the methods used, and the disposal areas and facilities used for disposing ballasts. Provide a copy of the results of tests performed to comply with the requirements of each disposal facility.

F. Manifests

Submit a copy of the official manifest for each shipment of contaminated materials including, but not limited to, ballast contents and ballast carcasses evidencing delivery of the material to the approved licensed disposal facility. All manifests shall be in accordance with the requirements of 40 CFR, Part 262, 40 CFR, Part 761, Section 23 and State and local regulations. Manifests shall be signed by the Authority or authorized official.

1.07 REGULATORY REQUIREMENTS

A. Statutes and Regulations

PCB-containing liquid removal, transportation, and disposal work shall be carried out in accordance with 29 CFR, Part 1910 and 1926, State of Michigan Act 64, Act 641, Act 307 and Act 136 wherever applicable. Hazardous material shall be transported in accordance with 40 CFR Part 263 to disposal facilities that operate in accordance with 40 CFR Part 264 and 40 CFR Part 265. Obtain all licenses, permits, certifications, receipts, etc., as required by such laws, regulations, codes, and ordinances.

B. General

All health and safety regulations relating to the removal, transportation, and disposal of ballasts available in 29 CFR, Parts 1926 and 1910 shall be complied with at all times. All pertinent regulations such as 29 CFR Parts 1910 and 1926 and 40 CFR 260, 261, 262, 263, 264, 761 and applicable state and local regulations shall be followed for storing, containing, and handling drums and small containers and for maintaining equipment for handling materials.

C. Protection of Employees and Visitors

Address the work in a manner such that its employees and site visitors will not be subjected to hazardous and unsafe conditions. Comply with all safety precautions, as required by 29 CFR Parts 1926 and 1910 and NFPA 329. Conduct and document the appropriate level of electrical lock-out/tag-out procedures.

D. Toxicity Considerations

Exercise care to minimize exposure to PCB-containing material and petroleum compounds when present during the handling of PCB-containing materials.

E. Flammability and Combustibility Considerations

Flammable and combustible vapors are likely to accumulate in work areas. Exercise caution by observing the following precautions: (a) eliminate all potential sources of ignition within the area; (b) present the discharge of static electricity during venting of flammable and combustible vapors; and (c) prevent the accumulation of vapors at ground level. Refer to API Publication 2015, 2015A and Recommended Practice 2003 for precautionary measures to follow during vapor evacuation activities. All open flame and spark-producing equipment is to be shut down and all electrical equipment must be explosion proof in compliance with NFPA 70B Class I, Division I, Group D or otherwise approved for use in potentially explosive atmospheres.

PART 2 PRODUCTS

2.01 GENERAL

Provide incidental equipment and materials necessary to complete specified activities, including, but not limited to, provision of drums for PCB-containing ballasts, and any scaffolding, cranes, or lifting equipment necessary to reach the areas for removal.

PART 3 EXECUTION

3.01 GENERAL

Disconnect or have disconnected power from ballasts and equipment being removed. Remove and containerize all PCB-containing light ballasts and equipment and dispose of properly. Obtain all required permits and approval documents. Provide approved containers, vehicles, equipment, labor, signs, placards, labels, manifests, and other documents necessary for accomplishing the work including materials necessary for spill cleanup for material from removal operations. Coordinate and pay for any additional sampling that may be necessary. Removal all PCB containing equipment discovered during demolition activities.

A. Safety Guidelines

Personnel working inside and in the general vicinity of the cleanup area shall be trained and made thoroughly familiar with the safety precautions, procedures, and equipment required for controlling the potential hazards associated with this work. Personnel shall use proper protection and safety equipment during work in and around the ballast, as specified in API Publication 2217, AP RP 1604, and in the site-specific health and safety plans. Proper guidelines regarding safety precautions shall be required for handling all other items. For further Health and Safety requirements, refer to Section 01110.

B. Control of the Work

Perform work in accordance with the requirements and specifications and take direction only from the Engineer or On-site Representative for this contract. Any other party that proposes to give direction to the contractor shall be immediately referred to Engineer or Authority. Perform control measures as specified in Section 01570.

3.02 CONTENTS VERIFICATION

A. Sampling and Analytical Testing

Items identified are documented in the Bidding Documents and/or Hazardous Materials Survey.

Any additional testing necessary is the responsibility of the Contractor. If necessary, the Contractor shall collect samples to the extent required by the approved off-site disposal facility receiving the material. All analytical testing as required under this section shall be paid for by the Contractor and is incidental to the Contract. The analysis shall require a 5 working day completion time from the date of sample receipt at the laboratory. Meet all regulatory requirements, including chain-of-custody documentation. Provide testing results to Authority or Engineer.

3.03 EXAMINATION

A. Sampling and Testing Requirements of Others

Collect samples of all container contents as required by the approved disposal facility for the material to be disposed. Perform all testing as described in Subpart 3.02.A. All documentation regarding the sampling and analysis such as sample locations, rationale, chain-of-custody, test results, etc., shall be maintained by the Contractor. A copy of all such test reports shall be furnished to the Authority or Engineer prior to removal of material.

3.04 DISPOSAL REQUIREMENTS

A. General

Materials requiring disposal shall become the property of the Contractor. Dispose light ballasts at a facility licensed to receive, clean, recycle, and dispose PCB-containing electrical equipment. Dispose all wastes in accordance with all local, State, and Federal solid and liquid waste laws and regulations, including those for hazardous waste, when applicable, as well as the Resource Conservation and Recovery Act (RCRA), and

conditions specified herein. These services shall include all necessary personnel, labor, transportation, packaging, manifesting or completing waste profile sheets, equipment, and reports. Provide all disposal and recycle information to the Authority or Engineer.

B. Records

Maintain disposal and recycle records for all waste determinations, including (1) appropriate results of analyses performed, (2) sample locations, (3) substances detected, (4) time of collection, and (5) other pertinent data as required by 40 CFR Part 280, Section 74 and 40 CFR Part 262 Subpart D. Record and make available information regarding method of transportation, method of treatment, method of disposal, quantities of waste, the names and addresses of each transporter, and the disposal or reclamation facility. Prepare and maintain copies and originals of disposal manifests, waste analyses or waste profile sheets, and certifications of final treatment/disposal signed by the responsible disposal facility official. Following contract completion, the records shall become the property of the Authority.

C. Hazardous/Special Waste Manifests

U.S. EPA waste generator's identification number for the site may be required due to the nature of the materials to be disposed. Work with the generator to obtain this or other generator identification numbers. For hazardous and non-hazardous contaminated liquid waste, utilize a State of Michigan approved manifest system in conformance with the requirements identified in 40 CFR Part 262, 40 CFR Part 263 and 40 CFR Part 761.

The manifests shall comply with all of the provisions of the transportation and disposal regulations. Prepare manifests for each load and obtain the appropriate identification numbers and signatures. The designated representative will sign all hazardous and non-hazardous waste manifests on behalf of the waste generator.

Before waste transportation, all of the established pre-transport requirements shall be met. The wastes shall be transported by a certified waste hauler (i.e., the hauler must have an appropriate State waste identification number) in approved containers. All transporters must sign the appropriate portions of the manifest and must comply with all of the provisions established in the applicable regulations. Hazardous waste manifests must be signed by the generator (On-Site Representative, Engineer, or designated representative).

Provide the Authority or Engineer with manifests, certificates, and other such evidence as may be required by local, State, and Federal regulations, to demonstrate that waste materials of all types were properly transported to, received at, and disposed at approved disposal facilities. After delivery of the load, provide a copy of the manifest to the Authority or Engineer.

D. Documentation of Treatment and Disposal

Dispose hazardous wastes at an approved treatment, storage, or disposal facility. The disposal facility will maintain U.S. EPA or appropriate State permits and waste treatment identification numbers and will comply with all of the provisions of the disposal regulations. Documentation of acceptance of special waste by a facility legally permitted to treat or dispose those materials shall be furnished to the Authority or Engineer following the delivery of those materials to the facility.

3.05 SPILLS

A. Spill Responsibility

The Contractor is responsible for cleaning up all the leaks and spills from decommissioning operations, drums, or other containers that occur because of the Contractor's negligence. Immediate containment actions shall be taken as necessary to minimize the effect to natural surroundings. Notify the Engineer, On-Site Representative and appropriate governmental authorities of the incident. Cleanup shall be in accordance with applicable local, State, and Federal laws and regulations at no additional cost to the Authority.

END OF SECTION

SECTION 13284

RECYCLING OF CFCs

PART 1 GENERAL

1.1 GENERAL

A. Contractor shall furnish all labor, material, equipment and incidentals required to remove, handle, transport and recycle residual refrigerants (assumed to be CFCs) contained in air conditioning units, drinking fountains, or other similar devices.

B. Contractor shall submit to the Authority or Engineer a copy of the applicable Contractor license for CFC removal and handling.

C. Upon removal of CFCs from each unit, Contractor shall label each unit to indicate the refrigerant has been recovered.

D. Contractor shall provide record documents in accordance with 40 CFR 82 verifying the removal procedures and amounts recovered.

PART 2 PRODUCTS

2.1 CONTAINERS AND LABELS

A. Cylinders for CFC removal, storage, and transportation shall be provided to the Contractor by the Engineer-approved recycling facility.

B. Contractor shall provide labels that indicate that the refrigerant materials have been evacuated.

PART 3 EXECUTION

3.1 GENERAL

A. Contractor shall identify the locations of all equipment at the Site that are believed to contain refrigerants and shall disconnect all utility services.

B. Using a method acceptable to the Engineer-approved recycling facility, Contractor shall evacuate each unit of all refrigerants and containerize the materials for recycling.

C. Contractor shall ensure that the CFC containing units are de-pressurized and free of all refrigerants. This may be accomplished by subsequent flushing with pressurized nitrogen or another acceptable method.

D. Contractor shall transport all cylinders containing CFCs in accordance with the applicable DOT regulations.

E. Contractor shall record and provide to Authority or Engineer documentation of devices evaluated, procedures used, amounts recovered and other information as required by 40 CFR 82 upon completion of removal activities.

--END OF SECTION--

SECTION 13285

REGULATED ABATEMENT OF MISCELLANEOUS MATERIALS

PART 1 GENERAL

1.1 GENERAL

A. Contractor shall furnish all labor, material, equipment, packaging, sampling, and testing, and incidentals required to remove/abate, transport and dispose/recycle all substances regulated under Federal, State and local statutes and land ban restrictions. These substances may include but are not limited to:

1. Chemical Fire Extinguishers

2. Mercury Devices (i.e., switches, thermostats, vapor lamps).

3. Non-hazardous Liquids and Equipment / Fuel Oil

4. Regulated Batteries

5. Non-PCB Liquid Cooled Electrical Equipment

6. Hydraulic Oil Filled Equipment Including Automotive Hoists

7. Hazardous Chemicals or Waste

B. The quantities of hazardous and/or regulated materials are provided in the Bidding Documents and/or Hazardous Materials Survey.

C. Contractor shall be aware that the buildings may contain lead based paint and as such the potential for exposure exists. Contractor shall handle lead based paint in accordance with all federal, state, and local regulations.

D. The Michigan Occupational Safety and Health Administration (MIOSHA) provides protection and regulations for the safety and health of workers. The Department of Consumer and Industry Services provides for the safety of workers. The Department of Community Health provides for the health of workers (517) 373-3500.

1. Contractor shall post any applicable State and/or Federal government regulations at the job sites in prominent locations.

2. Contractor shall be responsible for training their workers in safe work practices and in proper removal methods when coming in contact with hazardous materials.

E. Applicable Regulations (include but are not limited to):

1. RCRA, 1976 -Resource Conservation and Recovery Act: This federal statute regulates generation, transportation, treatment, storage or disposal of hazardous wastes nationally.

2. Part 111, Act 451, 1994 -Michigan's Hazardous Waste Management Act: This statute regulates generation, transportation, treatment, storage and disposal of hazardous wastes in Michigan.

3. Part 121, Act 451, 1994 -Liquid Industrial Waste Act: This statute regulates the transportation of liquid industrial wastes in Michigan. This includes non-hazardous liquids and hazardous liquids, which are not subject to management under RCRA or Part 111, Act 451, 1994.

4. Toxic Substances Control Act (TSCA), 1976. This statute regulates the generation, transportation, storage, and disposal of PCB wastes.

5. The list provided in Section 01410 includes the regulations that are most frequently encountered.

F. To use an off-site hazardous waste disposal facility, the Contractor must use the Uniform Hazardous Waste Manifest (shipping paper).

1. Hazardous wastes may not be disposed of in sanitary landfills used for solid waste.

2. Hazardous waste manifests shall be signed by the Authority, Engineer, or designated representative.

G. Federal, State and local laws and regulations may apply to the storage, handling, and disposal of hazardous materials and wastes generated at the Site. The list below and provided in Section 01410 includes the regulations that are most frequently encountered.

Topic	**Agency and Telephone Number**
Small quantity hazardous waste management, including hazardous waste stored in tanks	Resource Management Div., MDEQ (517) 373-9875 in Lansing, or District Office Certified County Health Department
Liquid industrial waste disposal (hazardous and non-hazardous)	Resource Management Div., MDEQ (517) 373-9875 in Lansing, or District Office
Disposal of hazardous waste into municipal sanitary sewers	Contact the superintendent of your wastewater treatment plant for permission
Discharges to surface water such as through a drain pipe or wastewater discharge	Water Division, MDEQ (517) 335-2690 in Lansing, or District Office
Discharges to groundwater, including septic systems	Water Resource Div., MDEQ (517) 241-1135 in Lansing, or District Office
Pollution Incident Prevention Plans (PIPP)	Resource Management Div., MDEQ (517) 335-2690 in Lansing, or District Office
Hazard Communication (for chemicals in the work place)	Michigan Department of Consumer and Industry Services (517) 373-1820
Burning of waste oil and other discharges to the air	Air Quality Div., MDEQ (517) 373-7023 in Lansing, or District Office

Topic	Agency and Telephone Number
Registration of underground fuel storage tanks	Remediation Div., MDEQ (517) 335-7211 in Lansing, or District Office
Installation, Inventory, testing & other requirements for above ground and underground storage tanks (for flammable and combustible)	Remediation Div., MDEQ (517) 335-7211 in Lansing, or District Office
Local fire prevention regulations and codes (including chemical storage requirements)	Local fire chief or fire marshal
Building and outdoor storage	Local government building or zoning official requirements (including setbacks)

PART 2 PRODUCTS

2.1 PACKAGING AND CONTAINERIZATION OF MATERIALS

A. Packaging and containerization materials shall include but not be limited to the following:

1. Lab packing requirements per Engineer-approved disposal or recycling facility.

2. Fiberboard barrels

3. DOT approved removable head drums; roll-off boxes or equivalent

4. Drum labels and marking which conform to 29 CFR 1926.58 K and all other Federal, State and local regulations

5. Spill prevention countermeasure materials and control products consistent with 49 CFR 173 and Contractor approved SPCC plan.

6. Sampling equipment and containers consistent with standard sampling technique

PART 3 EXECUTION

3.1 REMOVAL OF CHEMICAL FIRE EXTINGUISHERS

A. Chemical fire extinguishers may be present at the Site. Contractor shall be responsible for the removal, proper handling, and disposal of all chemical fire extinguishers.

B. Contractor shall properly collect, label and stage all chemical fire extinguishers throughout the Site. All chemical fire extinguishers shall be recycled or disposed at an Engineer-approved facility. Chemical fire extinguishers shall be transported in a manner that minimizes the potential for discharge.

3.2 REMOVAL OF MERCURY DEVICES

A. High intensity discharge lamps and fluorescent light bulbs that may contain mercury are present either in fixtures or stored in bulk. The approximate locations of these lamps/bulbs are identified in the Hazardous Materials Survey Report. Contractor shall remove all lamps/bulbs regardless of the estimated quantities provided in the Hazardous Materials Survey Report.

1. Many light fixtures and/or associated components may be suitable for recycling or resale. Contractor is encouraged to account for recycling or resale of such fixtures in its bid, if feasible.

2. Contractor shall be responsible for the removal of all regulated lamps and bulbs from the associated lighting fixtures. All lamps and bulbs shall be carefully removed from the fixtures and placed in appropriate sized containers equipped with dividers.

3. All containers intended for off-site recycling shall be either shrink-wrapped or placed in a secure crate to avoid accidental breakage. All containers shall be labeled as hazardous waste in accordance with applicable MDOT regulations.

4. Contractor must use all precautions when handling lamps to avoid accidental breakage. Should accidental breakage of lamps occur, then the lamp debris shall be collected and placed in segregated reinforced drums or similar containers pending disposal.

5. Light ballasts containing PCBs shall be managed in accordance with Section 13282 of this Bid Document.

B. Mercury switches and thermometers are present at the Site as indicated in the Hazardous Materials Survey Report, Contractor shall be responsible for the removal, transport and recycling or disposal of all mercury containing devices.

3.3 REMOVAL OF NON-HAZARDOUS EQUIPMENT OIL

A. Numerous oil-filled blowers, compressors, hydraulic hoists, and motors are present at the site. The approximate locations of this oil filled equipment are identified in the Hazardous Materials Survey Report. Contractor shall remove all oil filled equipment regardless of the estimated quantities provided in the Hazardous Materials Survey Report

B. Contractor shall drain all free flowing oil from each oil-filled unit. All oil shall be drained into appropriate storage containers, consolidated, and staged on-site with appropriate labeling pending transport and disposition to an Engineer approved reclamation facility.

C. Upon removal of all free-flowing oil, equipment will be released by the Authority or Engineer for disposition.

D. Automotive hoist systems shall be completely removed from the ground. Hoist excavations shall remain open until inspection and approval for backfill has been given by Engineer.

3.4 REMOVAL OF MISCELLANEOUS CHEMICALS, CONTAINERS, AND LIQUIDS

A. Numerous liquid filled containers, miscellaneous chemicals, and other hazardous materials banned from landfill disposal may be present at the site. The approximate locations of these materials are identified in the Hazardous Materials Survey Report. Contractor shall remove all liquid filled containers, miscellaneous chemicals, and other hazardous materials banned from landfill disposal, regardless of the estimated quantities provided in the Hazardous Materials Survey Report

B. Contractor shall remove all liquid filled containers, miscellaneous chemicals, and other hazardous materials banned from landfill disposal. All materials shall be staged on-site with appropriate labeling pending transport and disposition to an Engineer-approved reclamation/disposal facility.

C. Upon removal of all free-flowing oil, equipment will be released by the Authority or Engineer for disposition.

D. Automotive hoist systems shall be completely removed from the ground. Hoist excavations shall remain open until inspection and approval for backfill has been given by Engineer.

3.5 TRANSPORTATION

A. Contractor shall evaluate all materials associated with demolition activities to designate materials classification for transportation purposes.

B. Contractor shall package all hazardous materials for transportation and storage in accordance with 49 CFR 172.101 and applicable sections of 49 CFR 173. In addition, the Contractor shall comply with any packaging requirements identified by the Engineer-approved disposal or recycling facilities used for waste disposition during this project.

C. Contractor shall label and mark all hazardous materials packaged and temporarily staged for subsequent off-site transport. Hazardous materials that have been specifically prepared for off-site transport shall be labeled in accordance with 40 CFR 172.101 and 49 CFR 173 Subparts D and E. Contractor shall provide all labels.

D. Contractor shall ensure that the transporter has applied all appropriate placards to the transport vehicle according to the requirements outlined in 49 CFR 172.101 and 49 CFR Subpart F and all applicable MDOT/DOT regulations. The Contractor or transporter shall provide all such placards.

E. Contractor shall submit the manifest to the Engineer for review prior to signature by the Authority, Engineer, or designated representative and prior to removal of any material-

--END OF SECTION--